Situation analysis to National Biodiversity Strategy and Action Plan – NBSAP

Thematic Direction:
"Conservation of Species and Habitats"

Prepared for:

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Contents

1 Overview of the Goals and Objectives of the current NBSAP

The Biodiversity Strategy and Action Plan of Georgia (BSAP) was approved in 2005. The document sets up the country's biodiversity strategy until 2015 and outlines the action plan until 2010. There are 10 priority issues identified in the document, species and habitats conservation being among them.

Goal –**To maintain and restore Georgia's habitats, species and genetic diversity through *in-situ, ex-situ* and *inter-situ* conservation measures, and through sustainable use of biological resources.**Specific objectives were set up to achieve the goal:

- *To assess the status of species and habitats and assign status to them*
- *To ensure the conservation of the most threatened species and reintroduce extinct species as appropriate and feasible*
- *To ensure conservation and sustainable use of biodiversity hot spots located outside protected areas*
- *To promote ex-situ and inter-situ conservation*

There is no need to make significant changes to this goal or its associated objectives. However, as many of the actions identified in the NBSAP have now been implemented it is advisable to reformulate some objectives.

2 International Conventions and Agreements Ratified by Georgia and Their Incorporation into the BSAP

Currently, Georgia is party to numerous international conventions and agreements which address issues ofbiodiversity conservation and sustainable use. Among these, the most important are the UN Convention on Biodiversity (UNCBD) and the UN Framework Convention on Climate Change (UNFCCC), acceded by Georgia in 1994. In addition the following conventions are noteworthy: a) Bonn Convention on the Conservation of Migratory Species of Wild Animals, b) Convention on International Trade with Endangered Species (CITES), c)Ramsar Convention on Wetlands of International Importance, especially as Waterfowl Habitat; d) European Convention on Protection of Wildlife and Natural Habitats and, e) European Convention on Landscape Protection, etc.

The BSAP of Georgia reflects obligations outlined in UNCBD as well as in other important international agreements and conventions. The majority of measures formulated in the BSAP address the specific issues of in-situ conservation (article 8, 67 measures), environmental education and awareness raising (article 13), assessment and monitoring (article 7), ex-situ conservation (article 9) and, research and training (article 12). Issues such as international cooperation (article 5), promotion (article 11), technical and scientific cooperation (article 17) and access to

geneticresources (article 15) are less well represented. In addition, and understandably, the document does not cover issues that are not directly, or are indirectly, related to Georgia, e.g. coral reefs and islandbiodiversity.

Significant issues addressed by the BSAP include: protected areas, agro-biodiversity, inland water ecosystems, and dry and sub-humid ecosystems. It does not address issues of marine biodiversity and only sets up strategic goals and specific objectives for sustainable forestry taking into consideration that this issue is addressed in a separate document.

3 National and International Financial ResourcesAllocated for Implementation of the BSAP and On-going Projects

In general, Georgiafinancesmeasures directed towards protection and sustainable use of biodiversity from external sources;international financial institutions and donor countries. In recent years, the majority of funding for systemic development has been channelledintotheProtected Areas System (PAS) with very limited funding allocated to species.

The Global Environment Facility (GEF) has provided one of the most significant contributions to PAS development as well as to capacity building in biodiversity conservation (USD13 million since 1996). More specifically, Georgia has received funding for: i) the development of the NBSAP, ii) capacity assessmentsfor implementation UNCBD requirements, iii) PAS development, iv) preparation of national biodiversity reports under CBD and,v) conservation and recovery of Georgia's agro-biodiversity.

In 2006, through thejoint efforts of the German Economic Cooperation and Development Federal Ministry (BMZ) and the German Reconstruction Credit Bank (KfW)Conservation International (CI)and the Worldwide Fund for Nature (WWF), the PAstrust fund (Caucasus Nature Fund - CNF) was established to cover Armenia, Azerbaijan and Georgia. The fund became operational by the end of 2009 and, to date,co-funds up to 50% of PAs operational costs. The German Economic Cooperationand Development Federal Ministry (BMZ) and the German Reconstruction Credit Bank (KfW)actively support PAS development in Georgia (e.g. the development of Borjomi-KharagauliNational Park, establishment of PAs on Javakheti Plateau, etc.) and trans-boundary cooperation on this matter.

In 2008, the German Society forInternational Cooperation (GIZ) initiated a new project, "Sustainable Management of Natural Resources in the South Caucasus". The project incorporated efficient and sustainable use of natural resources, as an instrument for biodiversity protection in state and private sectors and setout with an initial fund of EURO 6.5 million.

The government of Norway has assisted Georgia in developing Mtirala National Park as well asChachuna and Iori managed reserves. In addition, it has contributed to the system-level capacity development ofPAS management, including the elaboration of the BSAP.

The US Department of the Interior (USDoI) supports PAs development through capacity building. It assists the country in developing Tbilisi National Park.

The European Union Commission and EU Council assist Georgia in identifying important biodiversity areas for the purpose of incorporating such areas intotheEmerald Network. Furthermore, the EU funds a relatively large-scale project (Delivering protected area capacity and engaging traditional pastoral communities to conserve Georgia's unique and internationally important biodiversity in the Republic of Georgia, Kakheti region) which works in both Tusheti and Vashlovani protected areas to, amongst other things, manage and mitigate human-wildlife conflict between sheep farmers and large carnivores.

The Japanese Social Development Fund has supported the development of villages located in the support zone ofKolkheti National Park through infrastructure,alternativeincomes and awareness raising projects, all designed to reduce pressure on the national park.

The MAVA Fondation pour la Nature supports on-going project, "Protected Areas in the Caucasus Ecoregion, 2012", which aims at implementing the PAs Programme of Work under CBD in the Caucasus Ecoregion.

Since 2004, the Critical Ecosystems Protection Fund (CEPF), a joint initiative of CI, GEF, the Japanese government, the MacArthur Foundation and the World Bank (WB),has invested USD8.5 million in the conservation ofthe Caucasus Ecoregion biodiversity.

British Petroleum (BP) and its partner companies (BTC Co and SCP) have initiated an environmental investment program that supports the development of Ktsia-Tabatskuri managed reserve and the elaboration of conservation plans for two endangered species; the brown bear and the Caucasus grouse). In addition, there is an annual grant program in the field of biodiversity conservation supported by BP and its partner companies.

In 2006-2009 IUCN, in cooperation with Missouri Botanical Gardens, WWF Caucasus Office and botanistsfrom6 countries (Armenia, Azerbaijan, Georgia, Iran, Russia and Turkey) implemented the project, "Coordination of Plant Species Red List Assessment for the Caucasus Biodiversity Hotspot". The project was supported by CEPF and, within its framework, established the Caucasus plant species red list working group, under the leadership of IUCN Commission on Species Survival. This group then elaborated the regional strategy on the Conservation of Plant Species. The document will be officially published in 2012 with the title, "The Initiative on Caucasus Plant Species Conservation".

In 2004, the Caucasus Regional Seed Bank was established in Tbilisi Botanical Gardens, in close cooperation with Missouri Botanical Garden under the CRDF Global and Georgian Research and Development Foundation (GRDF) joint program. The Royal Botanical Gardens, Kew, has assisted the conservation division of the Georgian Botanical Gardens to preserve seeds of over 800 plant species (20% of Georgia's plant diversity) under the project, Creation ofSeed Collections of Wild Plants of

Georgia in Georgian and UK Millennium Botanical Gardens, 2005-2010". This project, with a new title (Protection of the Caucasus Flora) has since been extended to 2020.

The Institute for Ecology, Ilia State University, implements a number of international projects that study climate change and land use change impacts on high mountainous plant diversity.

Several national and international NGOS have made important contributions to the implementation of the BSAP: WWF Caucasus Programme Office, IUCN South Caucasus Program Office, REC Caucasus, NACRES, CAMPESTER (Field Researchers Association), Fauna & Flora International, ELKANA (Bio-Farmers Association) and CENN. These organizations have implemented projects targeting individual species, including the assessment of and conservation planning for the Persian Leopard (*Pantherapardus*), the assessment of brown bear, the conservation planning for the Surami range wild goat (*Capra aegagrus*) population, and the status assessment of the Eurasianotter (*Lutralutra*) in Eastern Georgia.

4 Aichi Biodiversity Targets and Current Situation.

The following targets of the "Aichi Biodiversity Targets" address this thematic direction.

Target8:By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity

In Georgia, environmental pollution has significant negative environmental impacts on coastal and inland waters. Untreated wastewater generated by open pit mining is one of the major causes of surface and ground water pollution whilst the heavy use of explosives in this industry generates atmospheric pollution through the release, as particulates, of heavy metals and associated minerals.

Coastal waters are polluted from various sources, including industrial wastewater and sewage discharges, storm waters, oil spills, agriculture run-off, dredging and ballast water discharge. The largest problem, however, is inadequate treatment/absence of treatment of industrial and municipal wastewaters, as this result in the discharge of organic materials directly into coastal waters.

Among non-point sources of pollution, the most significant levels originate from agricultural run-off due to the extensive use of pesticides and fertilizers. Environmental pressure on the coastal zone from air pollution, from land-based and marine sources, is also evidenced.

Urban and rural landfills/waste disposal sites cause significant pollution of surface waters and sometimes, marine waters. Almost all these sites are obsolete whilst, according to the National State of the Environment report, the majority of town and village landfills isillegal, located very close to river banks.

Georgia has an extensive freshwater system. However, the water quality in surface water bodies often does not meet European standards. The major reason for this is the discharge of untreated

sewage into surface waters, with large quantities of biogenic substances being discharged. This, in turn, fosters algalblooms, which lead to oxygen depletion and degradation of aquatic ecosystems. Currently, the monitoring of water quality is carried out on only a very small part of Georgian rivers. More specifically, of the 60,000km of waterways in Georgia, regular monitoring is carried out on only 39 points. There is currently no monitoring of ground water in Georgia.

Thus, inland and coastal water pollution is, potentially, a serious problem and, in the light of a complete lack of existing data, further work is needed to measure its impact on biodiversity and to devise and implementcomprehensive measures to address it. In addition, pollution controls should be improved throughout the country and the environmental monitoring network expanded in order to check air, water and soil quality on a regular basis.

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.

Before adoption of the Law on Wildlife (1996) the introduction of invasive species was uncontrolledand both commercial fish species and fur-producing or game mammals (e.g. Crucian carp (*Carassiuscarassius),* Silver carp(*Hypophthalmichthysmolitrix),* racoon (*Procyonlotor)* and racoon dog (*Nyctereutesprocyonoides*) have been introduced. Many of these species are highly aggressive competitors and have invaded large areas of Georgia with significant negative impacts on native species, ecosystems and biomes. For instance, the introduction of crucian carp has resulted in the homogenization of local ichthyofauna with many native species unable to compete. The introduction of the racoon in the east of Georgia was coincidental with a decrease in the numbers of many bird species.However, the scale of this impact has never been assessed. Exotic species now make up about 8.9% of total plant species of Georgia and, amongst a total of 380 exotic species, 134 are completely naturalized. Currently, there are 16 alieninvasive plant species in Georgia.

The impact of non-native flora species in Georgia is under-studied. However, based on available information, we can conclude that invasive species result in thetransformation of individual ecosystems, including unique ecosystems, and represent serious threats to endemic plant species, agricultural lands and human health. There is, then a need for intensive research into the specific role and impacts of alien plant species. This should lead to the development ofboth preventive (legal-regulatory basis, trade and border controls) and control (mechanical, chemical, biological) measures for the purpose of limiting the distribution of alien species and for minimizing environmental and economic damage caused by their spread.

Even now, with the introduction of the wildlife law that regulatesthe introduction of non-native species, there is no clear strategy for regulating the alien species already widespread in Georgia. There is, then, a need to study the potential for controlling/eradicating major alien invasive species and to elaborate proper measures.

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 landscapes and seascapes.

In 2009-2011, within the framework of the EU funded project, "Creation of an emerald network in the South Caucasus and Central and Eastern Europe", a scientific database and maps were prepared identifying 20 sites that could be considered as Areas of Special Conservation Interest (ASCI) which together cover a total area of 596,475.63 ha. These areas are currently under review and pending approval. Nevertheless, it should be mentioned that the majority of important sites coincide with existing PAs and in the future the focus of designating ASCIs should be made on territories outside the PAs. At present, 7% of total land-cover in Georgia is covered by PAs; in order to fully realise this target, the PAS would have to be expanded by a further 800,000 ha. Even if all planned PAs in Georgia are fully established, only 10% of Georgia's territory will be under special protection status.

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.

In 2006, a new National Red List was created, consisting of species that fulfil criteria for designation under the IUCN classification system. Currently, there is no information relating to the population dynamics of these species, due to the absence of regular monitoring. As a result, an assessment of the status of Georgian conservation in terms of this target is difficult. In addition, the view that that further review of the National RedList would result in status changes for some species is held by many within the national scientific community. It is likely, however, that in most cases, such a change would be to Data Deficient (DD).

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.

This issue is more or less addressed for ecosystems located within protected areas. In order to partially realise this target, it is necessary to introduce integrated management approaches for ecosystems located outside the protected lands.

5 BSAP Actions, Level of Their Implementation and Achieved Outcomes

#	Action	Level of Implementation	Comment
B1	Conduct an inventory of plant and animal species and assess their status using IUCN categories of threat	Partially implemented	The status of rare plant and animal species has been assessed in accordance with IUCN categories and the results have been incorporated in the new National Red List; The list of endemic species of the CaucasusEcoregion (2,950 taxa) has been prepared; 1,200species have been assessed in accordance with IUCN criteria; endemic flora of Adjara-Shavshetihas been studied and the conservation status of 48 endemic species has been determined and recommendations for their in-situ conservation elaborated
B2	Create a new red list of threatened species and publish a new red data book	Fully implemented	A National Commission on Endangered Species has been established, under the auspices of the Academy of Science of Georgia, to elaborate the new Georgian Red List (2005). The list consists of 197 species, of which 141 are animals and 56 are plants; the Caucasus plants "Red List" has also been elaborated
B3	Identify threatened plant communities (rare, relic, primary and near primary, globally important, and sensitive communities)	Partially implemented	A draft version of the Regional Strategy on Plants Protection has been elaborated
B4	Implement conservation programmes for endangered, rare, endemic and relic species	Partially implemented	Conservation measures for species under immediate threat have been initiated

B5	Develop a national recovery programme Forgoitered gazelles and start its implementation	Partially implemented	In 2009 the goitered gazelle breeding programme in VashlovaniProtected Areas has started. In parallel, the national program on reintroduction of this species is under development.
B6	Develop a Striped Hyena Conservation Action Plan and initiate its implementation	Not implemented	Generalised large-mammal surveys conducted in East Georgia have not recorded any evidence of the continued presence of striped hyena
B7	Prepare a Cervidae Conservation Action Plan and initiate its implementation	Not implemented	
B8	Prepare a Caprinae Conservation Action Plan and initiate its implementation	Partially implemented	Conservation plans for both species of the Carpinae family (*Capra caucasica, C. cylindricornis*) present in Georgia have been elaborated but implementation is yet to start
B9	Prepare a *Leopard Conservation Action Plan* and initiate its implementation	Fully implemented	In 2010, the conservation plan for leopard (*Panthera pardus*) was prepared and the implementation of individual components was initiated
B10	Prepare a *Conservation Action Plan for Raptors* and initiate its implementation	Not implemented	
B11	Prepare an *Conservation Action Plan for Waterbirds*and initiate its implementation	Not implemented	
B12	Conduct a bat inventory and create a *Bat Conservation Action Plan*	Fully implemented	A bat inventory has been carried out; bat conservation plans have been prepared not only for Georgia, but also for the entire Caucasus region
B13	Prepare a *Marine Mammal* Conservation Action Plan and initiate itsimplementation	Not implemented	
B14	Prepare a *Wolf Conservation Action Plan* and initiate its implementation	Not implemented	
B15	To develop conservation action plans for	Partially	Conservation plans for the Caucasus

	other key species (not mentioned above)	implemented	salamander(*Mertensiellacaucasica*) and the Surami Range population of brown bear have been prepared; In addition, conservation plans for the lesser white-fronted goose (*Anser erythropus*), the white-headed duck *(Oxyuraleucocephala*), the Eastern imperial eagle (Aquila heliaca), the lesser kestrel (*Falco naumanni)*and the red-breasted goose (*Brantaruficollis)* have been prepared
B16	Establish bird ringing centres	Fully implemented	In 2010, the bird ringing centrewas established, the national program for ringing was prepared, rings produced and over 20,000 birds ringed
B17	Assess the impact of invasive species and develop management strategies for these species	Not implemented	
B18	Identify biodiversity hot spots located outside protected areas and define tools for their conservation	Partiallyimplemented	The list for the Important Biodiversity Areashas been prepared and these areas grouped in accordance with habitats' types; 31 Important Bird Areas (IBA)have been identified in Georgia; 17 areas with the highest conservation value have been identified for inclusion into the Emerald Network (Only few of them are located outside protected lands)
B19	Complete identification of Important Bird Areas (IBAs) in Georgia (including transboundary IBAs) and define tools for their sustainable management	Fully implemented	Important Bird Areas (IBAs) for the entire country have been identified; The majority of IBAs are located within PAs
B20	Conduct a nationwide inventory of wetland ecosystems	Not implemented	
B21	Develop a National Strategy for Wetlands	Not implemented	
B22	Implement the existing Javakheti Wetlands Conservation Management Plan	Fully implemented	There is an official agreement between Georgia and Turkey to implement a large-scale trans-boundary project; Javakheti Protected Areas is established

B23	Prepare a national program on the conservation of flood plain forests	Not implemented	
B24	Conduct pastureland inventory and assessment relative to carrying capacity, andputin place measures to promote rehabilitation of degraded pastures	Not implemented	
B25	Assess the Surami Range as a biological corridor and define management tools for its sustainable use	Not implemented	
B26	Assess the Gombori Range as a biological corridor and define management tools for its sustainable use	Not implemented	
B27	Continue the implementation of the Arid and Semi-arid Ecosystems Management Plan	Fully implemented	The Arid and Semi-arid Ecosystem Management Plan is being implemented
B28	Establish a captive breeding conservation centre and strengthen existing botanical gardens	Partially implemented	Seed bank has been created in Batumi Botanical garden to carry out ex-site conservation of endemic species
B29	Assess the plant species subject to international trade and define collection and export quotas for these species	Partially implemented	Collections and export quotas for plant species subject to international trade have been determined by the relevant government agencies
B30	Determine harvest quotas for non-game species of wild animals	Not implemented	

Out of 30 BSAP actions aimed at the conservation of species and habitats, 13 have not been implemented, nine have been fully implemented and eight partially implemented. The following factors have affected the implementation of these actions:

i) limited experience in conservation;
ii) system-level (legal and political) barriers;
iii) state policies focusing on rapid economic growth.

It is noteworthy that the majority of thoseactions that have been partially or fully implemented have been done so by NGOs with contributions from the state, in terms of financing, having been negligible.

6 Current Threats and Conservation Issues

The process of establishing new protected areas,as well as the expansion of existing ones, over recent years has contributed greatly to the conservation of species and habitats in Georgia. In addition, planned protected areas have been identified and currently the establishment of Matchakhela national park, protected areas in Pshav-Khevsureti and the Central Caucasus are under consideration.

A critical aspect to the process of developing the countries PAs is the use of sustainable management approaches to protect natural and semi-natural habitats. For this, important biodiversity conservation areas and animal migration corridors should be identified to ensure that local management systems are fully representative. With this in mind, both the Surami and the Gombori Ranges should be studied. The first is a biological corridor connecting the Greater and the Lesser Caucasus whilst the second represents a corridor connecting the Greater Caucasus and the Iori Plateau.

In 2006 the new national Red List of threatened species was adopted based on IUCN categories. However due to the lack of research and monitoring since the break-up of the Soviet Union the statuses of many species were on old data. This is particularly the case for mammals and there is a clear need for further review of the red list, based on new and rigorous inventorying.

A national biodiversity monitoring system has been under development in Georgia since 2008. The concept has been prepared, 25 biodiversity monitoring indicators selected and the methodology for data collection and analysis elaborated. In some cases, data collection has begun and appropriate equipment purchased.In addition, a national biodiversity monitoring web-site has been established. Data on the extent of threats and their impacts are not available due to the absence of a fully-operational monitoring system, hindering timely and adequate decision making. Georgia must now fully implement the unified biodiversity monitoring system, paying particular attention to red list species, if this tool is to be effective.

In the light of recent rapid economic growth (e.g. in transport, energy, mining, industry, infrastructure development, timber production, commercial fishing and other sectors), the easing of environmental impact assessments, as well as ineffectivelaw enforcement, have had inevitable negative impacts on species and habitats.

The recent revival of animal husbandry and agricultural land production has resulted in a transformation of the nations countrysideas, in particular, wetlands have been drained for cultivation. The current approach toagriculture is unsustainably and is likely to be having significant negative impacts on invertebrates, birds and small mammals; ultimately, a reduction in biological diversity is inevitable. It is necessary, therefore, to create and maintain small, intact or managed areas between agriculture lands to act as refuges and corridors and to help alleviate the pressures of modern agriculture.

In the light of increasing pressure on land and resources, human populations are intruding more often into wild habitats and competing more intensivelywith wildlife for resources. The conflict between men andcarnivores is becoming a common phenomenon throughout Georgia with attacks by wild animals on livestock being the inevitable result of wild prey being lost. The common response to such attacks is the retaliatory killing of wildlife as is exemplified by wolf depredation of sheep and otters frequenting the well-stocked ponds of fish farms.

In Georgia, there are strong indications that grasslands, traditionally used as natural pastures, being over-used and, certainly, there is little to no regulation of animal movements, even in protected areas, or enforceable grazing regimes in place. As a result, erosion seems to be fairly advanced in some areas whilst winter pastures, often located in the semi-arid zone,are additionally at risk from desertification. In both cases, both wildlife and agriculture arethreatened. The sustainable management of pastures is, then, a priority objective for the protection of biodiversity *and* local economic development.

Aquatic ecosystems have also been modified over an extended period: wetlands have been drained and lakes and rivers are artificially regulated. More recently, there has been an increase in the development of the countries hydroelectric capability with plans for the construction of tens of dams now in action. As has been seen around the world, such constructions tend to be associated with serious impacts on species composition and diversity, river morphologyand flow and water quality. The potential for displacing rural communities is also well documented.

More specifically, and already observed in Georgia, decreases in the flow and levels of affected rivers, has resulted in a reduction in the total area of flood plain forests whilst fish stocks have decreased dramatically with sections suffering complete loss of populations through the additional pressures ofillegal electro-fishing. The end result of these factors is the destruction of migratory fish routes, decreases in fish stocks and the homogenization of fish communities. Indirectly, thisreduces the quality of habitats for a number of mammals and birds.

The tugayforests of Georgia, a particular type of riparian forest considered to be one of the country's most important landscape components, are particularly at risk and their conservation as biodiversity refugesis certainly a national priority.

The costal waters and estuaries of the Black Sea, particularly the Rionidelta, represent important habitats for the Critically Endangered Atlantic sturgeon (*Acipenser sturio)*. They are also subject to several intensive and potentially damaging land-uses, as well as the development of infrastructure associated with the above mention push towards the generation of hydroelectricity. As such, the

identification of important spawning grounds and migratory routes is paramount for their subsequent protection and sustainable management.

Currently, eight fish species are commercially caught in the Black Sea with the European Anchovy (*Engraulisencrasicholus*) being the most commercially important. However, stocks of this species have dramatically declined in recent years.

As a result of habitat destruction and fragmentation over the past few decades, caused primarily by large-scale, unregulated timber extraction, as well as a long-established culture of hunting and a more recent failure of game species management, large mammal populations, have suffered dramatic declines in numbers, particularly amongst ungulates, with at least one species, the goitered gazelle, now extinct in Georgia. There is no progress in this regard and, in particular, no conservation measures focusing on game species have been implemented.

Given the restrictions imposed by current legislation, the clustering of large mammal populations in protected areas, and the red listing of most species favoured by hunters, there has been no legal basis or motivation for private hunting reservesto manage them. The majority of hunting reservesare located in the eastern part of Georgia and so hunters from the west havevery limited options. In parallel, high levels of poaching haveresulted in dramatic declines in game populations.

Since 2011, some fundamental changes to legislation designed to regulate hunting have been made. Hunting is now permitted in all areas of Georgia, excluding settlements and specific zones (natural reserves and national parks) of protected areas. In addition, the list of game species has been updated and hunting quotas and seasons identified. Most crucially, the hunting of red list species, including those critically endangered as a result of hunting, is now legal in Georgia. In light of these developments, the practical implementation of large mammal monitoring, especially those that are red listed, and the improvement of hunting procedures and control mechanisms is crucial.

Certain large mammals, such as those that are naturally rare (e.g. the Persian leopard) or whose ranges are restricted (e.g. wild goat (*Capra aegragus*) andred deer (*Cervus elaphus*), require urgent and specific conservation measures. In addition, urgent measures should be taken to restore the goitered gazelle (*Gazelle subguttorasa*)which hasbecome locally extinct in the recent past. The majority of marine mammals are also in poor condition, due to water pollution and overfishing, and require specific and special attention.

The status of the marine mammals in the Georgian territorial waters is unfavourable due to water pollution and overfishing.

In recent years, captive breeding programs for wild goat and goiteredgazelle have been implementedin Georgia but they have yet to yield any promising results. Conversely, acommon pheasant *(Phasianus colchicus)* breeding programme is showing good signs of success. Despite this, it is clear that breeding programs need better planning with specific conservation plans associated with them. It may also become necessary, as conservation plans for other species are developed, to implement further breeding programmes.

Recently, several national conservation plans have been developed and need implementing. However, there are several legal impediments to this currently in place and, more specifically, none of the species conservation plans have legal status, despite being endorsed by the Ministry of Environment.

7 Current Status of Georgia's Flora

Status of Plant Species

The "Red List of Georgia" consists of 56 species of treesand bushes assessed and classified in accordance with "IUCN Red List" categories and criteria.

Recently, the distribution and conservation status of plants endemic to the Caucasus Ecoregionhave been assessed.275 species and sub-species of vascular plants are endemic to Georgia and, of these, 152 (approximately 60%) are considered as endangered.

Conservation of critically endangered species and recovery of extinct species

In-situ conservation. The rational behind establishing a number of protected areas in Georgia was to protect certain plant species, floristic complexes or plant types. As such, comprehensive floristic lists are available for several protected areas and how endangered species are represented in PAs is well known. At present, protected areas represent the single most effective means of the on-site conservation of endangered species in Georgia.

Ex-situ conservation is implemented in the botanical gardens of Georgia (Tbilisi, Batumi, Sokhumi, Kutaisi and Bakuriani) and, partially, in Tsinandali,Likani, the Georgian Youth Palace and ZugdidiDendroparks. Georgian botanical gardens collaborate with the international organization, Botanical Gardens Conservation International (BGCI).

Conservation and sustainable utilization of important areas located outside protected areas

Information on endemic species assessed for the purpose of their inclusion into the "Red List of Caucasus Endemic Plant Species" has been used for the identification of important botanical areas in Georgia.

Among Georgia's endemic plants, about 20% are calciphyliclithophytes, foundon the Kolketi limestone ranges (Gagra, Bziph, Egrisi, Askhi, Okriba, Khvamli and Racha ranges until the Rikoti pass). Severalspecies of this ecological group are also foundon the Lesser Caucasus as well as isolated sites on the eastern section of the Greater Caucasus. About 80% of local endemics, associated with limestone habitats are classified as endangered due to overgrazing, infrastructure development, tourism and recreation and climate change. Initial efforts for identifying important botanical areas are based on existing data for endangered endemics, 40% of which are associated with limestone habitats. Spatialanalysis of calciphylic endemic plant distribution has made it possible to identify important botanical areas on limestone ranges, providing important evidence in support of in-situ conservation in Abkhazia, Samegrelo and Racha-Lechkhumi.

8 Current status of Georgia's Fauna

8.1 Invertebrates

Data on invertebrates isvery limited and sporadic. There has been, in recent decades, an increase in the area of land covered by arable land and pastures. More recently, the use of pesticides has become badly regulated and, together, these factors have resulted ina loss of suitable habitat for

invertebrate communities. The expansion of apiculture (bee keeping)may have also impacted wild populations of bumblebee (*Bombus sp.*) through direct competition for resources.

Information on the current status of beetles *(Coleoptera)* and butterflies and moths (*Lepidoptera)* is very limited. Monitoring of these two groups would provide some indication of habitat quality in terms of species composition amongst flowering plants and various groups of animals.

In addition, there is no up-to-date information on medicinal leeches (*Hirudo medicinalis*) that still used in medicine.

8.2 Fish

In recent years, illegal forms of fishing have caused significant declines infreshwater fish stocks. It is thought that the brown trout (*Salmotrutta*)has been affected the most although no detailed studies have been carried out recently. There are six species of sturgeon (*Acipenser sturio, A. stellatus, A. gueldenstaedti, A. nudiventris, A. persicus* and *Huso huso*) in Georgia, all found in coastal waters and river deltas and all included in the national red-list. *A. sturio* is also included in the IUCN Red-List as Critically Endangered A2cde; B2ab (ii,iii,v) ver 3.1. It can be assumed that the status of this species is very poor due to the destruction of spawning grounds and habitats.

8.3 Amphibians and Reptiles

In Georgia, one of the most important amphibians is the Caucasus Salamander (*Mertensiella caucasica*), classified by the IUCN as a "Vulnerable" species. It has spotted distribution patterns and is met on the west slopes of the Trialeti Range and, on Meskheti and ShavshetiRanges. During last ten years, habitats of the Caucasus Salamander have been gradually declining as a result of human activities. Caucasus viper *(Vipera kaznakovi)* is the West Caucasus endemic species and is met only on south-west slopes of the Greater Caucasus and, on the Meskheti Range. It's habitat, mountain forests, have become highly fragmented and, because of this, it is classified by the IUCN as "Endangered" species. The Caspian Turtle, classified by the IUCN as a "Vulnerable" species, is a subject to international trade, though its export is not currently carried out. In recent years, the Caucasus frog (*Rana macrochemis*) has been collected intensively on Kolkheti Plain and exported from Georgia, though this process is of limited scale. It is recommended to monitor this species in the future.

8.4 Birds

In general, information on Georgian birds is insufficient. At present, 36 avian species are included in the Georgian Red-List.

Among the raptors, the most threatened is theEastern Imperial eagle (*Aquila heliaca)*(IUCN classification: *Vulnerable*) withonly 15 known nesting sites in the country (though there have been some artificial sites constructed recently). It is necessary to continue monitoring these sites and, if required, to construct additional sites. The black vulture *(Aegipius monachus)*(IUCN classification;

Least Concern)is a globally rare species threatened primarily by the degradation of its favoured semi-arid and arid nesting habitats and its perception as a pest by many livestock farmers..

The black stork *(Ciconia nigra)*(IUCN classification; *Least Concern*) is a widespread but uncommon species occurring in flood-plain forests of Georgia, and is, so, restricted (see section 6).

Despite both the rock partridge, *(Alectoris graeca: IUCN classification; Near Threatened),* and the quail (*Coturnix. Spp.*) being the most important gamebirds in Georgia, there is no information on their relative population sizes. The Caucasus grouse, a Caucasian endemic, is present in very small numbers and is, yet, included on the list of gamebirds.

8.5 Small Mammals

Endemic rodents: Brandt's hamster *(Mesocricetus brandti)* (IUCN classification; Near Threatened) and the long-clawed mole(*Prometheomys schaposchnikowi*) are rare species with very limited habitats that have become fragmented due to agricultural activities such as grazing and the intensive use of agro-chemicals.

There are 29 species of bat *(Chiroptera)* registered in Georgia, of which four are included on the national red-list. There is a negative trend in populations of Georgian bats caused primarily by habitat degradation and the disturbance of roosting sites. More specifically, the major factors contributing to the reduction of bat number are: i) destruction of flood plain forests, important habitat for bat prey species; ii) unsustainable use of agrochemicals and mineral fertilizers and, iii) the destruction of aquatic invertebrates due to water pollution and electrofishing.

8.6 Large Mammals

Among the ungulates the wild goat (*Capra aegragus*), (IUCN classification; Vulnerable) occurring only in Tusheti Protected Areas, is perhaps the most at risk. In 2010 and 2011, NACRES carried out an inventory of this species and concluded that the current minimum population size of the wild goat is around 130. Monitoring of this population should continue.

Among the two species of tur (*Capra caucasica* and *C. cylindricornis*) found in Georgia, the former, West Caucasus tur, has the smallest population size, occurring only in very limited areas of Georgia.

Red deer numbers are also extremely low in Georgia with small, isolated populations occurring only in three protected areas; Lagodekhi PA, Gardabani Managed Reserve and Borjomi-Kharagauli National Park. At present, there is a slight positive trend in the Lagodekhi and Borjomipopulations and the total population size is estimated to be between 500-550. The recovery of this species, through the augmentation of current populations as well as the establishment of new populations (including as part of managed game reserves) is recommended.

Recently, intensive research has been carried out in Vashlovani and TushetiPAsin order to determine the presence of the Persian Leopard. Unfortunately, no evidence wasrecorded.

In the central part of the country, genetic studies have been carried out, and extrapolated, to provide a minimum population size of around 450 for thebrown bear.

Studies have also been carried out in eastern Georgia to determine the current status of the European otter and to determine the level of conflict with nearby fish farms. The study has shown that the number of otters has decreased, presumably as a result of a decline in wild fish stocks and of habitat destruction. At present, the minimum population size is estimated to be around 400 individuals.

The Eurasian Lynx is classified as "Critically Endangered" in the Georgian Red List. However, research conducted in semi-arid ecosystems of Georgia in 2011, using camera traps, suggests that this species has a relatively large population size.

8.7 Marine Mammals

Since 2009, a program of ecological research on the mammals of the Black Sea mammals has been implemented in Georgia and population estimates for the bottlenose dolphin (*Tursiops truncatus*) and the Harbor Porpoise (*Phocoena phocoena*) (59 and 2,800, respectively) have been made. The need for urgent conservation and protection measures to be implemented for the bottlenose dolphin seems clear.

9 Status ofGeorgia's Habitats

First of all, it should be noted that,until very recently (see below)internationally recognised habitat classification systems for have not been applied in Georgia. This has been an important barrier to the integration of national conservation policies with international, and more specifically, European policies and strategies and has impeded specific processes such as priority setting, assessing the status of specific habitats and planning effective conservation measures.

The BSAP includes a description of national habitat diversity and outlines relevant conservation strategies. However, this description does not adhere to international classification systemsand there are terminological differences between national and international classifications of plant species. The document also talks about the major biomes of Georgia though, again, these classes do not coincide with internationally agreed standards and, in practice, represent Georgian floristic zones. Therefore, the document does not accurately reflect or describe Georgian habitat types.

That said, best available data indicates that there are a total of 65 habitat types in Georgia, of which only 21 of which are listed in annex 1 of the EU directive 92/43/EEC.

In 2010, a national habitats classification system, based on a NATURA 2000 directive, was introduced in Georgia and updated in 2012. This document represents significant progress and it is

recommended to develop a unified list of habitats with the participation of all stakeholders. In addition to this, within the Emerald Network framework, 15 Georgian habitats, out of all habitats listed in annex 4 of the Bern Convention, have been selected. The Emerald Network represents a specific program for habitat protection in Georgia and aims to identify and preserveAreas of Special Conservation Interest (ASCI). Thus, during the development of a priority habitats list,as recommended above, focus should be on priority habitats as defined by the Emerald Network, since Georgia is a party to this European initiative, not to NATURA 2000.

Based on the above priorities, important habitats have been selected (please refer to annex 3). Existing threats and habitat sensitivities have been used for setting priorities. Water resources and plant and animal associations with relic and endemic species have been applied as major criteria. Importantly, both natural and semi-natural habitats (such as certain types of meadows as well as urban and ruderal habitats) are listed as priority areas.

Information on the current status of priority habitats is very limited.

Annexes

Annex 1. The List of High Conservation Value Georgian Flora

1.	*Acer ibericum*M. Bieb. ex Willd.
2.	*Angelica adzharica*Pimenov
3.	*Arbutus andrachne*L.
4.	*Aristolochiapontica* Lam.
5.	*Aquilegia colchica*Kem.-Nath.
6.	*Campanula hypopolia* Trautv.
7.	*Campanula kachetica*Kantsch.
8.	*Campanula kantschavelii*Zagareli
9.	*Campanula mirabilis*Albov
10.	*Campanula paradoxa*Kolak.
11.	*Campanula radchensis*Charadze
12.	*Campanula raddeana*Trautv.
13.	*Campanula suanetica*Rupr.
14.	*Cerasusmicrocarpa*C.A. Mey.
15.	*Cirsiumoblongifolium*K. Koch
16.	*Coryluscolchica*Albov
17.	*Erica arborea*L.
18.	*Galanthusalpinus*Sosn. subsp. *caucasicus*Gagnidze
19.	*Galanthuskemulariae*Kuth.
20.	*Galanthusketzkhovelii*Kem.-Nath.
21.	*Galanthuskrasnovii* A. Khokhr.
22.	*Galanthusplatyphyllus*Traub&Moldenke
23.	*Galanthusrizehensis*Stern
24.	*Galanthusschaoricus*Kem.-Nath.
25.	*Galanthusworonowii*Losinsk.
26.	*Genistaadzharica* Popov
27.	*Globulariatrichosantha*Fisch. &C.A.Mey.
28.	*Gymnospermiumsmirnovii* (Trautv.) Takht.
29.	*Halimodendronhalodendron*L.
30.	*Hibiscus ponticus*Rupr.
31.	*Iris iberica* Hoffm.
32.	*Iris winogradowii*Fomin
33.	*Kosteletzkyapentacarpa* (L.) Ledeb.
34.	*Lens ervoides* Grande
35.	*Lilium caucasicum* (Miscz.) Grossh.
36.	*Liliumkesselringianum*Miscz.
37.	*Liliummonadelphum*M. Bieb. subsp.*monadelhum* M. Bieb.
38.	*Liliummonadelphum* M. Bieb.subsp. *georgicum*(Manden.) Gagnidze
39.	*Orchis punctulata* Stev. ex. Lindl.

40.	*Osmanthusdecorus*Boiss. &Balansa
41.	*Ostryacarpinifolia*Scop.
42.	*Paeoniacarthalinica*Ketsk.
43.	*Paeonialagodechiana*Kem.-Nath.
44.	*Paeonia mlokosewitschii* Lomakin
45.	*Paeonia ruprechtiana* Kem.-Nath.
46.	*Paeoniastevenianа*Kem.-Nath.
47.	*Pancratiummaritimum* L.
48.	*Pinguicula vulgaris* L.
49.	*Pistaciamutica*Fisch& C.A. Mey.
50.	*Primuladarialica*Rupr.
51.	*Puschkiniascilloides*Adams
52.	*Pyrusdemetrii*Kuth.
53.	*Pyrusketzkhovelii*Kuth.
54.	*Pyrusoxyprion*Woronow
55.	*Pyrussachokiana*Kuth.
56.	*Quercushartwissiana*Steven
57.	*Quercus imeretina* Steven ex Woronow
58.	*Quercus macranthera* Fisch. &C.A. Mey.
59.	*Quercuspedunculiflora*K. Koch.
60.	*Quercusponticа*K. Koch.
61.	*Rhododendron smirnowii*Trautv.
62.	*Rhododendron ungernii*Trautv.
63.	*Salvia garedji*Troitzk.
64.	*Sambucustigranii*Troitzk.
65.	*Scorzonera ketzkhovelii*Sosn. ex Grossh. &Sosn.
66.	*Scorzonera kozlowskyi* Sosn. ex Grossh.
67.	*Solidagoturfosa*Woronow ex Grossh.
68.	*Spiranthesamoena* (M. Bieb.) Spreng.
69.	*Trapacolchica*Albov
70.	*Trapamaleevii* V.N. Vassil.
71.	*Tulipabiebersteiniana*Schult. &Schult. f.
72.	*Tulipaeichleri* Regel
73.	*Zelkovacarpinifolia*Pall.
74.	*Pinuspityusa*Steven
75.	*Matteuccia struthiopteris* (L.) Tod.
76.	*Osmundaregalis* L.

Annex 2. The list of High Conservation Value Georgian Fauna Taxa

1	*Parnassius apollo*
2	*Lycaenidae*
3	*Acipenser spp.*
4	*Mertensiella caucasica*
5	*Vipera kaznakovi*
6	*Mesocricetus brandti*
7	*Prometheomys schaposchnikovi*
8	*Chiroptera*
9	*Ciconia nigra*
10	*Aegypius monachus*
11	*Aquila heliaca*
12	*Phasianus colchicus*
13	*Tetrao mlokosiewiczi*
14	*Capra cylindricornis*
15	*Capra caucasica*
16	*Capra aegagrus*
17	*Cervus elaphus*
18	*Gazella subgutturosa*
19	*Lutra lutra*
20	*Ursus arctos*
21	*Lynx lynx*
22	*Panthera pardus*
23	*Tursiops truncatus*

Annex 3. Priority Habitats of Georgia

1.	Coastal lagoons
2.	Fixed coastal dunes with herbaceous vegetation (grey dunes)
3.	Mezo-oligotrophic marshes with sphagnum (*Sphagnetapalustrae*)
4.	Tall grass marshes
5.	Low grass marshes
6.	Tussock sedge wetlands
7.	Short rhizome sedge marshes
8.	Long-rhizome sedge marshes
9.	Caves
10.	Rock and true glaciers
11.	Subalpine beech woods with *Acer* spp.
12.	Limestone beech forests (*Cephalanthero-Fagion*)
13.	Beech forests with Colchic understory (*Fagetafruticosacolchica*)
14.	*Tilio-Acerion* forests of slopes, screes and ravines
15.	Bog woodland
16.	Alluvial forests
17.	Xero-thermophyte oak forest
18.	Bichvinta Pine Forest *(Pinuspithyusa)*
19.	Yew forest *(Taxusbaccata)*
20.	Chestnut forest (*Castaneasativa*)
21.	Zelkova forest (*Zelkovacarpinifolia*)
22.	Forest with Boxwood (*Buxuscolchica*)
23.	Kolhketi relic broad-leaved mixed forest
24.	Arid open woodlands
25.	Sub-alpine birch krummholz
26.	Sub-alpine tall herbvegetation
27.	Prostrate scrub vegetation (Rododendretum)