The FSC Forest Stewardship Standard for Bulgaria - Addendum

The High Conservation Value Forests (HCVF) Toolkit for Bulgaria (FSC-STD-BGR-02-2025a)

Updated version, February 2016

This document is an addendum of the FSC Forest Stewardship Standard for Bulgaria (FSC-STD-BGR-02-2025 and it is a normative document. It shall be used alongside with the FSC Forest Stewardship Standard for Bulgaria (FSC-STD-BGR-02-2025) to help implement requirements relevant to HCV.

For the sake of convenience and clarity, this toolkit also be downloaded from the website of WWF Bulgaria (www.wwf.bg) or provided by WWF Bulgaria at request.

The document was developed with the active support of ProForest within WWF and IKEA Co-operation on forest projects.

The updated version of the guide was prepared in the period 2014 - 2016 with the support of WWF and the working group for development of the National FSC Standard for Bulgaria within a partnership of WWF and IKEA

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Introduction of the HCVF Toolkit

What are HCVs and HCV Forests?

Modern understanding of forests as multifunctional systems that include ecological, social, economic, aesthetic and other functions needs broader reflection of forest values in national and world legislation and increasing number of initiatives and activities for forest management.

The idea of High Conservation Value Forests (HCVFs) was developed by the Forest Stewardship Council (FSC) and first published in 1999. This concept was created to redirect the forestry debate from setting definitions of particular forest types (e.g. primary, old growth forests) or methods of timber harvesting (e.g. industrial logging) to focus on the values that make a forest important. By identifying these key values and ensuring that they are maintained or enhanced, it is possible to make rational management decisions that are consistent with the maintenance of important environmental and social values.

The key to the concept of HCVFs is the identification of High Conservation Values (HCVs). The international definitions of HCVs are given below. HCVs are values that are important and need to be protected. High conservation value forests are forest territories (incl. territories without forest cover such as lakes in the forests, forest meadows, etc.) with high conservation values. Having identified HCVs, the forest manager should plan management in such a way as to maintain or enhance the identified HCVs and to put in place a monitoring programme to check that this is being achieved.

Definition of High Conservation Value Forests

High Conservation Value (HCV): Any of the following values:

- HCV1: Species Diversity. Concentrations of *biological diversity** including endemic species, and rare, threatened or endangered species, that are significant at global, regional or national levels.
- HCV 2: Landscape-level ecosystems and mosaics. Intact Forest Landscapes, large landscape-level ecosystems and ecosystem mosaics that are significant* at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.
- HCV 3: Ecosystems and habitats. Rare, threatened, or endangered ecosystems, habitats or refugia.
- HCV 4: Critical ecosystem services. Basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes.
- HCV 5: Community needs. Sites and resources fundamental for satisfying the basic necessities of local communities or Indigenous Peoples (for example for livelihoods, health, nutrition, water), identified through engagement with these communities or Indigenous Peoples.
- HCV 6: Cultural values. Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of

local communities or Indigenous Peoples, identified through engagement with these local communities or Indigenous Peoples.

HIGH CONSERVATION VALUE FORESTS (HCVF): Forest areas that have at least one of the six high conservation values as defined by FSC. (See the above definition for HCV)

Apart from its use in forest certification, the HCVF approach is increasingly being used for mapping, forest and landscape management and conservation decision-making approaches to forest resources. It is also being used in purchasing policies of timber companies or companies producing wood products. The HCVF approach recently has begun to appear in discussions and policies of governmental agencies.

What is the HCVF toolkit? The High Conservation Value Forests (HCVF) Toolkit provides a practical methodology to be used on a routine basis to identify High Conservation Value Forests (HCVF). It also provides guidance on the types of management and monitoring that are necessary if such forests have been identified.

After a discussion about identification of national High Conservation Values and their finalization, a number of potential uses of this toolkit are to be found. Giving definitions for the HCVs on a national level, this toolkit can be applied in a number of cases:

a. Use by forest managers to meet standards related to HCVF

Forest managers must carry out evaluations on their forest areas to determine whether any of the defined HCVs are present within their management unit (MU). Forest managers can integrate HCV identification and management into their overall forest management planning and activities. In order to fully implement certification requirements related to HCVF, HCVs should become an important element of baseline information collection and impact assessment, management planning, implementation of operations and monitoring.

b. Use by certifiers assessing HCVF

The defined national HCVs, together with management guidance, should form the HCVF element of national forest management certification standards. This would depend on the conclusions that have a broad support from a wide range of stakeholders and that have been the subject of an inclusive consultation process, according to the rules of the certification scheme.

Certifiers would also utilise the defined national set of HCVs for carrying out evaluations for compliance of forest management with certification requirements in the assessed MUs.

c. Use by landscape planners trying to prioritise different landuses and by forestry planners

Based on information that is already available or is being collected, the defined national HCVs can be used to draw up landscape-level plans and maps to show actual or potential HCVF. Such maps could then be used to inform and prioritise district and regional spatial and land-use planning decisions as well for conservation planning, and the development of forestry projects and plans.

d. Use by buyers implementing policies related to HCVF

Buyers implementing HCVF policies can utilise information about the presence of HCVs, or use the nationally defined sets of HCVs to undertake evaluations of the presence of HCVs in specific MUs, or in setting precautionary purchasing policies. Examples could be given with

big companies like IKEA, Cronospan, Fratti, CareFor, OBI, etc., which base their international timber supply policies on the HCVF methodology.

The use of this guide requires some knowledge of the conservation and social issues, which constitute the High Conservation Values. Toolkit users must evaluate whether local forest areas are exceptional in terms of ecological and social importance. This requires understanding of the uniqueness of forest areas and their trends as well as of the threats to their resources. It is very important that toolkit users communicate with regional, national and international experts (scientists - foresters, biologists, ecologists, sociologists, research institutions, NGOs) to evaluate the importance of a particular forest area.

This HCVF Toolkit has been developed to help interested parties understand the HCVF concept and conduct an HCVF evaluation. It will also help to ensure more consistent interpretation of the concept within Bulgaria.. The updated in 2016 version was made an Annex of the National FSC standard for Bulgaria.

How was the toolkit developed? The Bulgarian Toolkit uses a format similar to a Global Toolkit developed by ProForest. The Global Toolkit was created to help drafting groups develop guidances on HCVF at national level. The Global Toolkit is expected to guide the development of national toolkits in many countries all over the world. ProForest and WWF Danube-Carpathian Programme (DCP) organized a meeting in May 2003 in Sofia to discuss the Global Toolkit. The meeting was attended by representatives from the National Forestry Board at the Ministry of Agriculture and Forests, the National Nature Protection Service at the Ministry of Environment and Water, the Forestry University in Sofia, the Forestry Institute at the National Academy of Science as well as by representatives of international forestry projects and non- governmental organizations working in the field of forest management and nature conservation in Bulgaria.

The toolkit interprets high conservation values identified in the FSC Principle 9 within the context of Bulgaria and has developed specific High Conservation Values appropriate for the country.

During the development of the draft national toolkit, the Global Toolkit was analysed for its consistence with the operative national legislation and existing forestry practices in Bulgaria. The analysis was carried out by Bulgarian experts and together with the Global Toolkit it was used by the working group as a main source of information. Materials were used from sociological studies and statistical research works carried out by other forestry and social projects. Data and maps were provided by the National Institute of Culture Monuments, the Institute of Ethnography and the Institute of Archaeology. Inquiries were submitted to the Holy Synod - Sofia, the Head Office of the Mufti and to the Catholic Church in Bulgaria.

The working group established for the development of the draft HCVF Toolkit included experts in forest management and forest planning, experts in the social field, biodiversity and certification, experts in forest fires and erosion. The working group included also representatives of the National Forestry Board, Ministry of Environment and Water, Institute of Forests, Faculty of Biology at the Sofia University, Vitosha Nature Park Directorate, Green Balkans NGO, Balkani Wildlife Society, Bulgarian Society for the Protection of Birds, German-Bulgarian Forest Project, Bulgarian-Swiss Biodiversity Conservation Programme, ProForest, World Wide Fund for Nature, etc.

The identified HCVs and the toolkit methodology were field-tested in the autumn of 2004 (at State Hunting Unit Rakitovo), and also during a real FSC forest management certification process in the spring of 2005 (at State Forestry Unit Dospat and Borika Private Cooperative in the village of Stoikite). A broad consultation process was carried out and the draft toolkit

was presented to a wide range of forest experts and stakeholders. The team collected and considered all the opinions, comments, recommendations and additions submitted from the stakeholders.

The structure and content of the National Toolkit are in compliance with the received consultation materials, so that it is as complete as possible, suitable for the country conditions and convenient for everyday use in forestry practices.

In the autumn of 2005, the finalized Toolkit was presented at a Public national meeting/workshop aiming its popularisation among as much as stakeholders as possible and its faster implementation in practise.

Being in practical usage, the Toolkit shall be regularly updated according to the enhancement of different forest practises and legislation. In the period August 2014 – February 2016 the last updates were done affecting mainly certain elements in Section HCV 6, and in the Annexes and Lists of Species. The proposals have been developed by experts from the Bulgarian Academy of Sciences and by professionals in the field of tourism and social development with the support of WWF Danube Carpathian Programme Bulgaria. The Toolkit was incorporated as an annex to the National FSC Standard for Bulgaria. The lists referring to HCV 2 were also updated.

The national toolkit for identification, management and monitoring of HCVF is available for all stakeholders. It can be provided by WWF Bulgaria (e-mail: office@wwf.bg; fcic@wwf.bg).

Additional information about the development of the toolkit can also be provided by WWF Bulgaria.

Using the toolkit

The toolkit includes one chapter for each of the six types of High Conservation Values as well as appendices. Each chapter begins with an introduction. The introduction includes the FSC definition of the value and a list of the relevant components of the high conservation value for Bulgaria. These are the values that users must examine within the context of a forest management area.

The components are then considered individually. Each of them consists of **rationale** and **instructions/rules for the users on the identification of the value's presence** as well as on the managing and monitoring the forest resources in order to maintain the high conservation value. These sections form the heart of the HCVF toolkit.

The rationale provides background and justification as to why a particular attribute is considered of high conservation value. Further on, the rationale lists the specific types of forests or forest uses that should be considered as a HCV.

The toolkit includes an evaluation methodology for each component and its applicability within a management unit. Toolkit users are asked to compile information or answer questions that can be examined using government and forest management planning documents, maps and satellite images, information of the trends and threats to forest resources, consultations with local communities and other stakeholders.

The identification process and task depends on the complexity of each component. For components that are relatively simple to evaluate, the toolkit includes a description of an appropriate task for implementing the identification.

However, for many components (e.g. HCVs 5&6) the evaluation process will be more complicated and will possibly take more time and costs. For these cases, the toolkit has divided the process into **preliminary** and **full assessment**. For social values, a threshold is introduced for determining if a value is fundamental or critical to the wellbeing of local communities.

The **preliminary assessment** is a simple methodology to see if HCVs are likely to occur or not. This acts as a coarse filter, rapidly excluding all forests that definitely do not contain HCVs, and identifying forests that potentially contain specific HCVs. The preliminary assessment should be straightforward enough to be undertaken by people without special knowledge on biological or social sciences (e.g. forest managers and timber buyers). The preliminary assessment is usually in the form of “yes” or “no” questions and that can be asked about the presence of certain values. For example, a preliminary assessment may ask users to identify if communities or protected areas exist nearby an examined MU. If the answer to the preliminary question is yes, then the toolkit user will need to conduct a more complete or full assessment of the value. For preliminary assessments can often be used maps and other information easily accessible by forest managers. If a toolkit user determines that a forest area does not possess the specific characteristics, then this HCV does not need to be further examined.

The **full assessment** is a more time-consuming methodology identifying in detail what the potential HCVs are, or clarifying that there are no HCVs. This is a more thorough examination of the characteristics of a forest area or forest use and requires more information and expertise. A full assessment will usually require that the toolkit user contacts relevant experts and stakeholders and/or conducts specific research and consultations.

THRESHOLDS AND IDENTIFICATION OF SOCIAL HIGH CONSERVATION VALUES (HCVs 5 & 6)

The economic situation of the country for the last decades has turned forests into the main source of subsistence for the local people in many forest areas. Apart from other services, forests play an important social function in mountainous regions. Forest resources are a main source of livelihood and income for most of the people living in the Rhodope, Balkan and Strandja Mountain. Incorporeal benefits from the forests are of no minor importance. According to sociological researches more than 65% of the country population uses forest territories for recreation and tourism. Almost one third of the country area is covered with forests and it was even more in the past – a fact entailing a narrow relationship between people and forests. It has lasted for thousands of years and has had a strong impact on the culture, history and spiritual values of Bulgarian people. A substantial part of Bulgarian history and knowledge is related to forests and their landscapes. These relations vary greatly in different regions and among different cultural groups in Bulgaria. It is very difficult to determine which uses and traditions are critical and which are not.

Thus, a modified process is used to identify HCVs 5. Specific components have not been identified as in the other sections of the toolkit. Instead, the toolkit provides examples of values and thresholds to help toolkit users determine when the relationship between forest areas and local communities is strong enough to be considered a HCV. Thresholds are created to help understand the basic HCV definitions within the specific Bulgarian context.

The process of identifying relevant social values consists of three steps - preliminary assessment, full assessment and threshold evaluation. In other sections of the toolkit, if a forest area contains an identified value, the forest is considered a HCVF. However, when

considering social values, the toolkit user must also evaluate whether the forest area is critical for maintaining the value. For example, if a community uses local forest areas for production of fodder for animal breeding, the threshold questions help evaluate to what extent communities rely on the forest as a source of fodder and pasture.

Thus the process of identifying social values will be:

Preliminary assessment questions:

If relevant

⇒ Full assessment questions:

If relevant

⇒ Threshold analysis:

If threshold criteria is met

⇒ HCV identified

The toolkit drafting team has developed the social section on the base of existing studies and members' experience in numerous regions of the country. However, it is likely that the toolkit examples do not identify all types of potential HCV. Thus, this toolkit should be used as a guide to direct the HCV identification process and should be gradually developed with time. **It is critical that toolkit users consult with local communities and other forest users on how each community values a forest area.**

Recommendations for managing, protection and monitoring of values

If the examined value appears to be irrelevant after a full evaluation process, no further action is necessary. If a value/component is relevant to the MU, then the manager must take steps and make the necessary changes to ensure the **protection, management and monitoring of the value.**

Recommendations are included to help toolkit users develop action plans (strategies) to maintain the high conservation values present within a forest area. Recommendations are brief and are meant to guide users on the types of information and consultations necessary to develop effective planning and monitoring programs. However, the recommendations are insufficient on their own, as a resource to provide detailed guidance and are not meant as standard operating procedures. The directions for HCV identification given in the toolkit refer to all forest areas within the country and to all types of forest ownership.

For additional information regarding the toolkit development, please contact WWF Bulgaria:

e-mail: office@wwf.bg; fcic@wwf.bg

Keys to HCFV success

CONSULTING EXPERTS AND DEVELOPING PARTNERSHIPS

The HCVF toolkit requires users to identify HCVs that cover a wide range of ecological, environmental, and social issues and requires an understanding of regional biodiversity issues, animal and plant ranges and behaviour, water and soil resources, ecosystem health, anthropology, and local economy. It is very likely that toolkit users will not have all of the

expertise necessary to evaluate these issues alone. The toolkit process is highly reliant upon the input of local and national expert organizations and individuals.

The working group has tried to present information in a simple way and to make the toolkit as user-friendly as possible. Anyway, users should consult with experts during HCV identification and while developing management and monitoring techniques. In a number of cases, when toolkit users don't have the relevant education, these experts should provide the key inputs as to whether a forest area/forest type should be considered critical, threatened, etc. External experts and organizations will also be able to provide input on the status of forest types and of rare, threatened and endangered species, and help design management strategies to ensure the maintenance or enhancement of high conservation values.

Who are the regional and national experts? The working group, who developed the HCVF Toolkit includes representatives of various organizations, which could help toolkit users in practice. Appropriate advice and consultations or specialists who could help in the process of identification and managing the HCVFs in the country can be offered by all nature protection NGOs, the divisions of the Executive Forest Agency and the Ministry of Environment and Waters, scientific institutions, consulting companies working in the field of sustainable development, forest certification and forestry. The more specialists are collaborated with and consulted, the more likely it is that good decisions will be made.

PRECAUTIONARY APPROACH

An important component of HCVFs management is the application of the precautionary approach. HCVFs are, by definition, the most important forests from a conservation or social perspective (depending on the identified HCVs). Therefore, it is critically important that the identified values are not lost. But with the current level of knowledge about forests and their functions, it is not always possible to be sure that a particular management strategy will be suitable in all cases. Therefore, it is essential to use the precautionary approach when dealing with HCVFs.

In practice this means: "Planning, management and monitoring of the attributes that make a management unit a HCVF should be based on existing scientific and indigenous/traditional knowledge, to ensure that these attributes do not come under threat of significant reduction or loss and that any threat of reduction or loss is detected long before the reduction becomes irreversible. In case a threat has been identified, early preventive actions, including halting the existing actions, should be taken to avoid or minimise such a threat, even if the causes and effects of the threat are not scientifically confirmed" (FSC Principle 9 Advisory Panel, 2000).

The precautionary approach operates both when identifying HCVs and when managing already identified HCVs, e.g.:

When assessing the presence of HCVFs: where doubt exists as to whether an attribute, or a collection of attributes are sufficient to signify HCVs, then the forest manager should treat these attributes as HCVs, until information proves otherwise. This should occur when toolkit users, regional and national experts lack sufficient information to make an informed judgement. Examples of forests that might not appear valuable at first include fire damaged or logged areas that host endangered large carnivore species like the bear, wolf or others.

When managing and monitoring HCVs: where doubt exists as to the appropriate management of the HCV, management should include treatments to the HCV at a scale and

intensity that does not threaten the HCV, prior to the application of the specific management approach within the whole management unit.

The precautionary approach has been incorporated into the methodology for identifying HCVs and should also form an important basis for any management regime and monitoring programme. For example:

In case that existing forest management practices do not maintain or enhance identified HCVs, they should be altered and stringent safeguards should be placed in compliance with the operative Forests Act, Biological Diversity Act, Protected Areas Act or even stricter requirements should be placed, if needed. In MUs, located in HCVF, harvest intensities may have to be reduced, additional or larger conservation zones within production forest areas may have to be created or currently unprotected territories may have to be protected.

If communities rely upon a forest or forest area for clean water supply or other such use, it is a HCVF. Any decisions on forest use should take this fact into consideration and this should be made with the genuine input from the interested community. Co-management and co-monitoring of production operations might be relevant. Interested communities are not restricted to those within the MU. All communities whose water supply depends on a particular forest area should be included.

If forest managers/certificate holders are unsure whether a HCVF area can be logged or if it should be zoned as a conservation set-aside, harvest activities should be suspended until enough evidence is gathered to prove that the proposed harvesting regime will not harm the future of the forest. This will require detailed study of the area and development of location-specific management rules.

HCV1. Species Diversity.

The complete heading of HCV 1 is as follows: Species Diversity. Concentrations of biological diversity including endemic species, and rare, threatened or endangered species that are significant at global, regional or national levels.

INTRODUCTION

This HCV is directed towards evaluation of the management of forest units in relation to biological diversity protection in the broadest sense. This evaluation refers to both influence over species and influence over ecosystems and their functioning.

In the Bulgarian context this toolkit has identified the following components of HCV 1:

- HCV 1.1. Protected areas and sites
- HCV 1.2. Threatened, endangered and endemic species
- HCV 1.3. Critical concentrations of species

HCV 1.1 Protected areas and sites

RATIONALE

Protected areas (PA) are a vital component of biodiversity conservation. Identification of HCVFs that fall within protected areas can easily be done according to the operative national

legislation. In Bulgaria a special Protected Areas Act (PAA) was enforced in 1998. It arranges the categories of protected areas in Bulgaria, their purpose, regimes of protection and use, and their management. Different ownership, regimes and uses in these areas as well as different bodies responsible for the management, have resulted in the establishment of six categories of protected areas according to the Bulgarian legislation. Currently the total area of protected areas in Bulgaria covers about 5% of the country. The correlation between categories set by PAA and IUCN is given in Table 1:

Table 1: Categories of protected areas in Bulgaria

PAA Categories	Definition of the category according to PAA	IUCN
Reserve	Samples of natural ecosystems including specific and/or notable wild plant and animal species and their habitats.	I (II)
National Park	Areas free of human settlements within their boundaries, hosting native ecosystems with a rich diversity of plant and animal species, specific and unique landscapes and notable sites of non-living nature.	II (V)
Natural landmark	Specific or remarkable sites such as rock formations, rock outcrops of scientific value, earth pyramids, caves, caverns, waterfalls, fossil and mineral deposits, sand dunes and others, which are of exceptional value due to their inherent rarity, representativeness, aesthetics or importance for science and culture.	III (V)
Managed Reserve	Ecosystems including rare and/or endangered wild plant and animal species and their habitats.	IV
Nature Park	Areas including various ecosystems with diverse plant and animal species and habitats, with specific and unique landscapes and sites of non-living nature.	V (VI)
Protected Area	Territories with specific or remarkable landscapes, including such resulting of harmonious coexistence of man and nature; habitats of endangered, rare or vulnerable plant and animal species and communities.	VI, III

Since 2007, with the accession of Bulgaria to the European Union, the country became part of the European ecological network Natura 2000. Natura 2000 is a Pan-European network made up of protected sites designed to provide long-term survival of the most valuable and threatened species and habitats of Europe in line with basic international agreements in the field of environmental protection and biodiversity. The ecological network was established on the basis of two European directives: Directive 92/43 / EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) and Directive 2009/147 / EC on the conservation of wild birds (Birds Directive). These two European Directives were transposed into the national legislation by the Biodiversity Act (2002). The national ecological network (part of Natura 2000) consisting of protected sites is covering approximately 34% of the country territory. Over 75% of the protected Natura 2000 sites fall within forests and forest areas.

The size, distribution, condition and threats to protected areas and sites will affect decisions on thresholds concerning other HCVs, as discussed later in this document.

DEFINITION, CRITERIA AND THRESHOLD

In Bulgaria HCVs are all protected areas and sites, as follows:

- **Lands and forests from the forest fund (LFFF) in reserves, managed reserves, national parks, protected areas and natural landmarks designated under the PAA;**
- **LFFF in nature parks included in biodiversity conservation areas, designated under management plans (according to PAA) or park management plans (according to the Forestry Act);**
- **LFFF in nature parks without management documents;**
- **LFFF included in protected sites designated under the Biological Diversity Act (BDA).**

IDENTIFICATION OF HCV 1.1

The presence of all designated protected areas and sites within a MU that could be affected by forestry operations must be identified. This information, as well as information referring to relevant management plans is available at the National Nature Protection Service at the Ministry of Environment and Water, Executive Forest Agency, Regional Forest Directorates, State Forest and Hunting Units, Nature Park Directorates, Regional Inspectorates of the Ministry of Environment and Water and some NGOs.

If such areas are identified within the management unit, follow the guidance below.

RECCOMENDATIONS AND INSTRUCTIONS FOR MANAGEMENT OF HCV 1.1

Management activities must be implemented only according to the management plans developed for the protected areas/sites and their buffer zones as defined above.

If no management plan in action for the protected areas or sites, the requirements according to PAA and the related Designation orders must be followed as well as the following regulations: no clear cuttings shall be implemented except for intensive plantations; substitution of the main forest species shall not be allowed. The values that are protected due to the designation of the protected areas and sites shall be identified (those are noted in the objectives for designation of an area/site) and evaluation must be done to define if the

regimes and forest management activities maintain these values. Forest managers must ensure that there are no activities within the MU that cause negative impact over the existing or proposed protected areas or sites.

Periodic checks must be done for the establishment of new protected areas/sites or for proposals for new protected areas/sites that could potentially be affected by forest management activities.

RECOMMENDATIONS AND INSTRUCTIONS FOR MONITORING OF HCV 1.1

A monitoring system is developed within each management plan of a protected area/site and it has to be implemented. Forest managers must identify those indicators related to forest management activities and carry out the monitoring according to the specified schemes, terms, criteria and methods of assessment.

In case there is no endorsed management plan for a protected area/site, the forest managers shall contact the official responsible bodies. They shall together define the monitoring procedures and indicators to prevent negative impacts on the protected areas' HCVs from the forest management operations. Examples can be given of operations that may affect water quantity or quality, disturb wildlife migration routes or increase the risk of fires.

HCV 1.2 Threatened, endangered and endemic species

RATIONALE

Forests can be defined as habitats of importance for a number of rare and threatened vertebrate and invertebrate animal species as well as plants. Yet, it is difficult for forest managers to identify the numerous threatened species and to assess their presence within a protected area. The information currently available makes it difficult to assess the threshold numbers of populations or threshold biodiversity values which identify the presence of HCV 1.2. Quantitative analyses can be made only for a small number of groups (for example birds).

HCV 1.2 includes both forests that shelter threatened and endangered species and forests with natural characteristics that make them potential habitats of such species. This is due to the species rarity and the necessity of protection of habitats with critical importance for these and other species. That is why the Toolkit recommends habitats of indicator species to be used for the identification of this HCV. Indicator species are listed in Annex 1. This list is based on the "critically endangered" and "vulnerable" categories of the IUCN Red List, the Red Book of the Republic of Bulgaria - volume I and II and the Atlas of Endemic Species in Bulgaria. The list also includes species that are important for the overall functioning of the ecosystems on a local scale. The list should be periodically revised in relation to the changes in the species status.

DEFINITION, CRITERIA AND THRESHOLD

The areas within a MU in which species listed in Annexes 1A and 1B occur, are considered to possess HCV. The species listed in these annexes are of such a high conservation value, that the permanent presence of only one of them in a MU is sufficient to consider this area a HCVF. LFFF comprising habitats of species listed in Annex 1A and AB are HCVF.

IDENTIFICATION OF HCV 1.2

As part of the forest management the manager should already have conducted a biodiversity assessment resulting in species inventory within the area of the management unit. This information should then be analysed to determine whether the MU shelters any species from Annex 1 that are threatened, endangered or endemic. The presence of only one species from the list within the MU is an indicator for HCV.

In the cases where the habitat falls within a land estate smaller than the forest subcompartment, the estate is defined as HCVF. In the cases where the estate is bigger than the subcompartment, the subcompatment is defined as HCVF.

For animal species HCVFs can be bigger than the land estates and the criteria for definition are listed in Annex 1B.

Considering the specifics of invertebrate species, the assessment is split into two stages – initial and final assessment (see Invertebrates in Annex 1B). The initial assessment provides a preliminary notion of the forest value and includes more common, more adaptable to the environment and easy to identify species. This assessment can be undertaken even by a non-specialist or a forest manager.

The final assessment shall be based on major indicator species closely associated to deadwood. Considering that these species are difficult to identify and require specific methods for monitoring and research, the assessment shall be done by experts in entomology.

RECCOMENDATIONS AND INSTRUCTIONS FOR MANAGEMENT OF HCV 1.2

- Periodic consultations with experts to assess potential presence of little known, but threatened, endangered or endemic species occurring in the MU is necessary.
- Key information has to be identified for every species with high conservation value. This should include: current status (population and distribution) in the whole country and on local level (in some cases species with lower conservation significance can be more significant in a local context); main trends and threats, and management impacts. The information must be in regard to the particular HCVF, but also be in accordance with the other species habitats in the area.
- In the areas defined according to the thresholds in Annex 1 are implemented only activities stipulated in the relative National Plans for Management of Species (NPMS) where such plans are available.
- If there is no NPMS, till its endorsement, management plan for the particular HCVF shall be developed following the specific requirements of identified HCV. An expert for the specific HCV species shall participate in development of the Management plan.

✓ Specific recommendations shall be developed for the management of each area with HCV (with occurrence of some of the indicator species). Long term management plan for each HCVF shall be developed, considering the specifics of the identified species indicating the presence of a HCV and based on habitat assessment and categorization. Management options include but shall not limited to: restoration measures; active management; strict protection. For example, it may be appropriate

during the planning and management process to mark and take into account: some key reserve areas; areas that maintain landscape-level connectivity; areas that ensure the maintenance of certain habitat features, such as provision of standing deadwood or riparian zone protection.

- ✓ In the context of HCVF management other options may arise. It is recommended to use expert guidance during the process of inventory and management planning of the HCVF.
- ✓ Forest managers have to ensure that measures will in fact be implemented, for example by changing operational procedures and organizing trainings. Trainings have to be provided for the employees that participate in the forest management activities. These trainings have to introduce the restrictions caused by the presence of HCV and the measures for protection and conservation of these values.

RECOMMENDATIONS AND INSTRUCTIONS FOR MONITORING OF HCV 1.2

Indicators and monitoring plans must be developed and set in practice. Examples of key monitoring indicators can be: specific wildlife populations and trends for their occurrence in the MU; protection of the scope, quality and consistency of the habitats; pre-operational planning checks; other quantitative data such as information on hunting given by forest guards.

Forest managers should be aware of any changes related to the protection of HCV on landscape and national level.

If HCVs include samples of native ecosystems within a substantially altered landscape, features that help to maintain those HCVs within the landscape (e.g. corridors and buffers) should be monitored.

HCV 1.3 Critical concentrations of species

RATIONALE

The purpose of this value is to provide protection of forests that shelter critical concentrations of species using forest area permanently or temporarily during specific periods or particular stages of their life cycle. This includes crucial places for reproduction, winter shelters, migratory routes and corridors (regarding latitude and altitude). For this HCV, existing systems for identifying areas with high species concentrations can be used, for example Ornithology important places, Botanical important places, Herpetological important places, etc.

Examples for important temporary concentrations:

- Concentrations of migratory birds
- Concentrations of wintering birds (roosting sites, etc.)
- Nesting sites (bird colonies)
- Capercaillie courting grounds
- Bat colonies
- Fish migrations to spawning sites
- Deer rutting grounds
- Congregations of amphibians and/or their offspring in water bodies or wintering sites
- Concentrations of migrating amphibians

- Reptile wintering sites
- Reptile congregations at the boundary of forest edge to open areas.
- Invertebrate congregations in old hollow trees, standing dead trees, decaying wood and trees covered with fungi

DEFINITION, CRITERIA AND THRESHOLD

Lists with species indicators for this HCV with their minimal concentrations in Bulgaria are listed in Annex 2. Thresholds are specified for each species. The presence of critical temporary or permanent concentrations of species or important refuge areas, according to the requirements of Annex 2, defines a forest as a HCVF.

IDENTIFICATION OF HCV 1.3

Identification of this HCV is divided in two parts - preliminary assessment and full assessment. If the preliminary assessment indicates that a HCV may be present, then the forest manager shall conduct further work (i.e. full assessment) to define whether or not the HCV is actually present.

PRELIMINARY ASSESSMENT

It shall be verified if the MU contains landscape features that determine concentrations of wild animals. This information can be obtained from local people or habitat surveys. It is considered that most of necessary the information is gathered and available for the manager as part of the forest management plan requirements. Special attention shall be paid to the knowledge of local people – the forest manager shall communicate with local people and record the information received from them. If the MU contains forest areas with presence of any of the examples of important temporary concentrations listed in HCV 1.3 rationale, full assessment has to be implemented.

FULL ASSESSMENT

1. The assessment must include a survey of the territories with concentrations of species listed in Annex 2 and must check the availability of the required threshold values. The survey should consist of the following stages:
    - Defining when the territory/ type of forest is being used by the species listed in Annex 2 (with help of both local people and expert knowledge)
    - Conducting one or more field surveys to identify new territories of species concentration as well as to verify the information for the existing ones. It is recommended that the methodology of field surveys is consulted with relevant experts.
    - Both the number of species and the population densities should be estimated. The survey report should include a full description of the methods (with justifications) as well as the results.

If a concentration is found, the forest manager should contact relevant experts or organizations to determine whether this constitutes a globally significant concentration.

2. If within the MU are identified areas recognized as important temporary feeding or refuge areas, areas of reproduction importance or separate groups of trees used as sleeping areas by significant number of animals, then the forest manager should conduct surveys looking for concentrations of species. The existence of threshold values according to Annex 2 should be checked. The surveys should include recommendations in regard to the significance of these concentrations (local knowledge shall be considered when making decisions).

RECCOMENDATIONS AND INSTRUCTIONS FOR MANAGEMENT OF HCV 1.3

1. The forest manager is responsible for clearly describing the specific HCV. For example, 'section X has two bear dens inhabited by x bears" or "the rocks of subsection x shelter bats colonies of species A and B with average number of C or D", or there is a pond in section X with approximate size of A x B meters and approximate depth of C meters" or "among the rock heaps within Subsection X, observations of Y snakes were recorded" or "X terrestrial tortoises have been observed within a small area of Section / Subsection X". Maps with spatial location of the HCV have to be created. Key information for each HCV must be identified. This should include: importance (global, regional, local, etc.) of the temporary concentration (expert opinion); current status of important species that comprise the concentration; main trends and threats to the maintenance of the forest type or habitat feature that contains the HCV; Potential management impacts over the forest or habitat feature defined as HCV.
2. The forest manager has to provide leisure conditions in the areas defined by Annex 2 by stopping any forest activities when the areas are used by the species listed in Annex 2. During the rest of the year activities for protection and maintenance of the defined areas can be implemented in accordance with the relevant National Plans for Management of the Species (NPMS).
3. If there is no NPMS for the species for which a specific HCV is defined, a management plan for the HCVF should be developed, complying with the specific requirements of identified HCV. An expert on the specific HCV species should participate in development of the management plan.
   - ✓ Concrete recommendations should be developed for the management of each HCV. They may include active management, measures for recovery or strict protection according to the specific conditions. It may be appropriate to define some key reserve areas, to maintain landscape-level connectivity and/or ensure the maintenance of certain landscape features such as canopy cover and presence of standing dead wood. For instance, for amphibians buffer areas should be defined around water bodies (50 m in diameter around the water body) together with a non-disturbance season: February – July (the period could be extended to August depending on the geographical location). For aquatic turtles buffer areas of 100 m in diameter should be defined around the water body for the period May – July. For reptiles a season of non- disturbance should be defined in the strip between the wood and open areas with a buffer of 40 m in diameter in the period April – June.

   - ✓ Management proposals have to be integrated into the broader planning process. The HCVF management plan has to provide protection of the defined HCVs. Forest managers have to be sure that the stipulated measures are actually implemented, for

example through changing operational procedures and ensuring that a training programs have been completed for the responsible personnel.

Indicative recommendations for management of forests providing habitats for invertebrate species listed in Annex 1 of the Toolkit

Unlike most other animal species, saproxylic invertebrates are strongly attached to the habitat that is suitable for them, which in many cases may even be a single tree. They are highly specialized and a population of a species can survive many generations feeding and living in just one dead branch or one hollow, which makes them highly sensitive to negative changes and human impacts on forests.

Here are some exemplary recommendations for the management of forests that shelter invertebrate species listed in Annex 1 of the Toolkit. The manager s should provide:

- Maintenance of natural and semi-natural forests with diverse age structure, native tree species and sufficient number of mature and decaying old trees in different stages of aging. Measures should be taken in the managed forests to ensure that there is sufficient amount of trees of different ages, while also leaving unaffected trees typical for the habitat. Species that are not typical for the place (alien species) should be thinned out or entirely removed. Certain places should be left unexploited where trees can grow old and die naturally. To maintain a sustainable use and preserve biodiversity, it is recommended to keep the amount of dead wood at about 35 m3/ha (or 3-8% of the total volume of available wood) while leaving in the stand all dead trees with a diameter exceeding 22 cm.
- Presence of trees of all trunk sizes for the main tree species.
- Enhancement of fire prevention measures and control in forests.
- Study of the populations of beetles and butterflies and incorporation of the gathered data into forest management plans and activities.
- Identification and marking of biotope trees – both present and future.
- Implementation of preventive measures through appropriate forest management ensuring a balanced presence of trees in various ages and structure and avoiding unnecessary sanitary logging. It is important to dispel the misconception that saproxylic invertebrates are "vermins" in the woods.
- Preservation of undergrowth and ecotones – the border zones between wood and open areas.

RECCOMENDATIONS AND INSTRUCTIONS FOR MONITORING OF HCV 1.3

1. This part of the HCVF management includes accomplishment of periodical monitoring and analysis of the forest condition through field observations, development and application of specific programs for each HCVF. For the development and application of those programs consultations with relevant experts are needed – environmental conservation experts, consultations and information can be received by relevant authorities (departments of Ministry of Environment and Water and Executive forestry Agency).
2. The monitoring program has to be developed due to standard operational procedures which include clear indicators appropriate for the management purposes. The program can be conducted once or many times per year, if seasonal reporting is necessary, i.e. if important events occur in the MU only during specified months.

3. Examples of key monitoring activities: specific wildlife population trends; habitat quality survey results; local people's perceptions of the changes in the species status; pre- operational planning checks; other quantitative data provided by forest guards such as hunting records
4. When the HCVs include samples of native ecosystems within a substantially altered landscape, features that help to maintain those HCVs within the landscape (e.g. corridors and buffers) should be monitored.
5. It is possible to find out during the monitoring process that management plans do not reflect real forest conditions, treats and trends. In this case consultation with relevant expert are necessary, to define if there are gaps in the plans and if current management models are critical for the conservation of species representing HCV. If a necessity for more strict management regimes is determined, the areas with HCV 1.3 can be included in Action plans for biodiversity conservation within a bigger landscape site or can be included in protected areas.

HCV2. Landscape-level ecosystems and mosaics

The complete heading of HCV 2 is as follows: Landscape-level ecosystems and mosaics. Intact Forest Landscapes, large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.

INTRODUCTION

Currently there is no legislative framework in Bulgaria regulating the definition of such criteria. Moreover, on a national level there are no credible scientific studies defining the minimum size of forest areas supporting viable populations of occurring species.

RATIONALE

Forests that contain viable populations of most or all native species. They should be large in size and relatively unaffected by recent human disturbance and fragmentation (% of woodless areas). The identification of this conservation value aims at including typical landscapes from the relevant forest vegetation area and its biological diversity.

DEFINITION

HCV 2 are important forest areas, forming landscapes of regional or national significance, where all naturally occurring species exist in natural patterns of distribution and abundance. With regional significance are those forest areas, which within the framework of the region are unique according to naturalness, fragmentation and minimum size of the area hosting vital populations of naturally occurring species. With national importance are those forest areas, which within the framework of the country are unique according to naturalness, fragmentation and minimum size of the area hosting vital populations of naturally occurring species.

CRITERIA AND TRESHOLD

When forming the criteria for the distribution of forests corresponding to HCV 2, the geographical distribution of the large forest massifs on the territory of the country was taken into account. Forests which meet this conservation value are defined by the following criteria - naturalness, fragmentation and minimum size of the area hosting vital populations of naturally occurring species.

1. Naturalness – the forest consists of plant species with natural occurrence in the country, regardless of their origin.
2. Fragmentation – identification of the anthropogenic landscapes percentage within the described area and their spatial distribution.
3. Size of the area – depending on the type of forest stands, their geographical distribution and the vital existence of the populations of all naturally occurring species.

IDENTIFICATION OF HCV 2

PRELIMINARY ASSESSMENT

Potential forests complying with the requirements of HCV 2 have a clear geographical differentiation. Therefore, as a first step the geographical region should be identified. Potential regions are: Pirin, Rila, Rhodope, Vitosha and Strandja Mountains, the Danube Hilly Plain, the Balkan and Sredna Gora Mountains, Western bordering mountains and Belasitsa.

The altitude of the described area determines the potential geographical objects, which can be fully assessed. As a second step the geographical objects are identified according to the altitude - Strandja Mountain, the Danube Hilly Plain, Sredna Gora and the eastern parts of the Balkan mountain at the altitude of up to 1000 m. Pirin, Rila, Balkan and Rhodope mountains at the altitude of above 1000 m.

The forest types are determined according to the tree species that form the forest. Tree species form pure or mixed forest stands regardless of predominance. As a third step tree species must be identified. They have to be naturally widespread in Bulgaria.

FULL ASSESSMENT

It is determined according to the table in which the parameters of the criteria are specified.

Table 2: Criteria for the distribution of forests corresponding to HCV 2

Forest	% Naturalness	% Fragmentation	Min. Size,
Strandja Mountain, the Danube Hilly Plain, Sredna Gora and eastern part of the Balkan	70	7	40 000
Pirin, Rila, western parts of Balkan and Rhodope mountains	80	5	50 000

According to the above criteria the full assessment of the forests in Bulgaria is developed and the all MU coming under this HCV are identified. The data is presented in a table to the forestry section level in State MU and are given in Annex 3.

According to the criteria mentioned above, a comprehensive assessment of the forests in Bulgaria has been developed and all forestry units falling within this conservation value have been determined. The data is presented in tables (lists of the forest compartments of forest and hunting management units) and enclosed as Appendix 3 of the Toolkit.

RECCOMENDATIONS AND INSTRUCTIONS FOR MANAGEMENT OF HCV 2

1. Planned forestry activities should not decrease the forest cover of the area.
2. Forestry management systems should maintain species, age and structure diversity on a landscape level. Various and nature-friendly forest management systems should be used according to the specific characteristic of each forest stand.
3. Not less than 5 % from the forests of the main presented tree species on the territory of the MU territory or part of it, belonging to HCV2, have to be separated for Old-growth forests. Detail recommendations for Old growth forests management are given in Annex 4A, bullet point 15.
4. Ecological principles and practices should be observed when planning and carrying out forestry activities. When implementing forestry activities, certain amount of dead wood should be kept in the forest stands as well as trees with hollows, single and groups of old trees.
5. Priority should be given to natural regeneration and forestry systems that provide it.
6. It is not allowed to change the autochtonuous composition of the stands, except in the following cases: 1. When after major natural disturbances, the territory is left to natural succession. 2. When the purpose of the management of forest stands is restoration of autochtonuos species.
7. Only local species and origins are used for restoration (afforestation) activities. In areas with identified HCV 2 non-local tree species and origins should not be introduced, excluding in dendrariums provenance trails, as well as animal species outside their natural area of distribution, excluding in State Hunting Units.
8. Artificial afforestation on natural open areas is not permitted except for anti-erosion activities.
9. Activities (including forestry activities) that increase the anthropogenic fragmentation of the area are not allowed, even if the existing fragmentation is below the specified threshold. Roads and infrastructure planning have to maintain landscape integrity to the maximum level. It is necessary to provide appropriate elements reducing the impact of fragmentation of the territory which support the movement of living organisms, for example providing migration corridors, connections and areas of tranquility for wild animals, etc.

RECCOMENDATIONS AND INSTRUCTIONS FOR MONITORING OF HCV 2

1. The quantitative indices of all three criteria – naturalness, fragmentation and size of the area - should be followed during the monitoring. Quantitative indices should correspond to the values in the full assessment table for all of the identified forest-vegetation areas.
2. Monitoring of documents should be carried out annually. Current forestry plans, management plans, spatial management plans have to be used as well as procedures related to changing the purpose of lands and forests from the forest fund, etc.
3. The implementation of timber harvesting activities must be controlled.
4. Once in every 5 years audits should be made of field sites where activities have been carried out that directly or indirectly affect any of the criteria. Consultations with communities and relevant authorities must be carried out to ensure that they are aware of each other’s activities and work to mitigate potential future threats such as illegal logging, quarrying, unsustainable agriculture, etc.

5. Monitoring should be done on the influence of anthropological external threats such as fires, as well as monitoring of the conditions for occurring of extreme events such as pest attacks, etc. Implementation of preventive measures should also be done where possible.

HCV 3. Ecosystems and habitats. Rare, threatened, or endangered ecosystems, habitats or refugia.

INTRODUCTION

Up to now no full assessment of ecosystem types has been conducted in Bulgaria. There is also no assessment of threatened or endangered ecosystems. In the past (in the 60-ies and 70-ies of XX century) the method of forest typology was developed, but later on it was abandoned in favour of habitat features (soil richness and humidity) typologization. A significant part of the unique Bulgarian forest ecosystems are included within protected areas. Protected forests, however, cover a much smaller area than the actual area of high conservation value forests. Unfortunately, the protected areas status does not always mean implementation of adequate measures for the protection of rare forest ecosystems.

RATIONALE

HCV3 focuses on ecosystems which are representative for particular forest types. Some forest types are naturally rare in the country and the aim of this HCV is to provide protection for threatened or endangered ecosystems presented by them. This includes mainly forest types which were previously widespread or typical for wider region.

If most of these habitats outside the MUs decrease, the importance of these ecosystems inside the MUs increases, which means that they will need stricter management, or perhaps protection. It is therefore in the interest of MU managers to both monitor what is happening to the ecosystems they manage in the wider landscape, and to help mitigate the threats. Rare, threatened and endangered ecosystems in Bulgaria, which include forest areas, are listed in Annex 4 of the Toolkit. The list of ecosystems in Annex 4 is done according to the European classification EUNIS.

DEFINITION

All forest territories, which include ecosystems listed in Annex 4 of the Toolkit are considered HCVF. Forests with the characteristics of old-growth forests (OGFs), possessing age structure and degree of naturalness that represent a habitat for a complex of species from specific ecological and taxonomic groups, are also considered HCV.

CRITERION AND TRESHOLD

All forests that include ecosystems from *Appendix 4* are considered HCV 3. Regardless of the fact that they are not in the list of *Appendix 4*, forests that have characteristics distinguishing them as OGFs are also considered as HCV 3.

According to the definition for Old Growth Forests (OGF) in the National FSC Standard, OGF are forests in the final stage of their development where the stand has reached a considerable age, not significantly affected by large-scale natural disturbances and human impacts, and features uneven spatial and age structure; presence of old live trees with

diameters close to the maximum for the relevant tree species and habitat; standing and fallen large dead trees in various stages of decay.

PRELIMINARY ASSESMENT

As part of the forest management process, the forest manager should already know which forest types are present within the MU. This information is then analyzed to identify potential forest regions in the MU that are in, or contain threatened or endangered ecosystems according to Annex 4.

During the survey of existing HCV 3 it will be very useful for the forest managers to consider all existing forest type maps of the MU. Environmental experts can also provide consultations to guarantee that habitats comply with the described HCV 3 definition and those in Annex 4.

Additional information can be received from related institutions such as the Executive Forest Agency, the Ministry of Environment and Water, etc.

FULL ASSESSMENT

If the existence of HCV areas in a MU is identified or such areas potentially exist, field observations have to be carried out for identification of accurate boundaries of the HCV.

After their identification, the boundaries are applied/reflected on the maps of the MU. The data must also be included in the planning documents, as well as in the subsequent inventory and planning for the territory of the respective MU.

Considering the above, the following examples can be given for identifying HCVF of the HCV 3 category: Black alder forests, natural Austrian pine forests, natural forests of *Pinus peuce* and *Pinus heldreichii* or other according to Annex 4, shall be considered HCVF. Their accurate boundaries shall be identified and marked on the maps of the MU in order to take them into account and ensure their protection and possible enhancement during forest management and planning activities in the area in order to provide protection and extend (if possible) of HCV.

RECCOMENDATIONS AND INSTRUCTIONS FOR MANAGEMENT OF HCV 3

After the identification of the forest ecosystems representing HCV 3 and their distribution on the territory of the management unit, they must be managed in a way that maintains and/or improves their nature conservation status.

Recommendations for management of HCV 3 forests are given in *Annex 4A.*

RECOMMENDATIONS AND INSTRUCTIONS FOR MONITORING OF HCV 3

This part of the HCVF management includes accomplishment of periodical monitoring and analysis of the forest condition, through field observations, development and implementation of a specific program for each HCVF. Relevant experts shall be consulted for the development and implementation of these programs. Consultations and information can also

be received from relevant institutions such as the departments of the Ministry of Environment and Water and the Executive Forest Agency.

1. Monitoring program has to be developed based on standard operational procedures, which include clear indicators appropriate for the management purposes. It can be conducted once or several times per year, if seasonal report is needed, for example if important events occur in the MU only during specified months.
2. During fieldwork the following indexes are observed: vitality of separate trees, forest structure, state of health, existence of degeneration processes, size and location of empty spaces, fragmentation levels, succession presence and its direction, etc. and/or interpretation of remote data that have been received.
3. The threats and severity of threats for the HCV 3 forest types have to be specified and management measures to decrease them have to be identified.
4. Successful implementation of monitoring measures requires training of the employees involved in forest management activities. All of them shall be aware of the restrictions concerning HCVs and the measures stipulated for their protection.
5. During the monitoring process it is possible to find out that management plans do not reflect real forest conditions, treats and trends. In this case consultations with relevant expert are necessary to define if there are gaps in the plans and if current management models are critical for the ecosystem type conservation. If a necessity for more strict management regimes is determined, the areas with HCV 3 can be included in Action plans for biodiversity conservation within a bigger landscape site or can be included in protected areas.

HCV 4. Critical ecosystem services.

The complete heading of HCV 4 is as follows: Critical ecosystem services. Basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes.

RATIONALE

This HCV pertains to the important functions of the managed forests. Examples of identified HCV 4 components include:

- Forests that are unique sources of drinking water
- Forests that are critical for water catchments
- Forests that are critical for erosion control
- Forests functioning as fire barriers
- Forests with critical impact on agriculture and aquaculture

HCV 4.1 Unique sources of drinking water

RATIONALE

Many sources of drinking water for entire communities or settlements depend mostly on forests. These are surface or underground sources like streams, rivers, lakes, springs or wells. If the forest protects and maintains water supplies for people or communities who have no alternative sources of drinking water, then this will always be considered critical.

DEFINITION

In Bulgaria, HCVs are all LFFF falling within sanitary guarded areas 1 and 2, which supply water for drinking and other daily needs and are regulated under Ordinance 3 of 2000. HCVs are also LFFF adjacent to sources of water for drinking and other daily needs, but without officially identified sanitary protection areas.

IDENTIFICATION OF HCV 4.1

1. The local water economy companies supplying drinking water have to be contacted as well as the competent Basin Directorates (under the governance of the Ministry of Environment and Waters) in order to identify the existing sanitary protection areas for drinking water in the specific management unit.
2. In case there is no centralized water supply for a settlement or a separate property, the local stakeholders within and around the forest management unit have to be identified. Detailed consultations with local communities have to be carried out to identify critical locations of water sources.

The forest unit manager must identify if the communities have access to alternative sources of water that are not dependent on the MU (for example piped network bringing water from a source outside the MU). It has to be checked if this access to water is available all year long.

The forest unit manager must identify and map the locations of important community sources of water for drinking and other daily needs, as well as the level of protection that is ensured. Typical examples are:

- ✓ Rivers and streams flowing from or through the forest area and supplying water for the community;
- ✓ Springs located in the forest or affected by the forest area, used directly or through a piped network;
- ✓ Wells located in the forest or deriving water from water sources affected by the forest.

The manager/forest user has to conduct an analysis of the needs (possibly in conjunction with HCV 6) related to the identified water sources.

The water catchment area that is the source of the water has to be identified. It must also be identified if it is partially or entirely located within the management unit.

It also has to be determined if the forest cover affects the quality or quantity of the water sources.

RECOMMENDATIONS AND INSTRUCTIONS FOR MANAGEMENT OF HCV 4.1

1. The forest manager is obliged to comply with the management and conservation regimes, according to Ordinance 3 of 2000 for the sanitary and safety zones around the reservoirs for drinking and domestic water supply.

2. When there are no established sanitary zones around drinking water sources, the requirements of HCV 4.1 have to be applied. Specific management and protection measures have to be developed, complying with the requirements in Ordinance 3 of 2000.

These are some general recommendations for forestry activities:

- ✓ To support the establishment and maintenance of mixed plantations with uneven spatial structure;

- ✓ To use forest management systems that provide permanent forest cover in the forested water catchments;
- ✓ The density/fullness of stands in the water catchment areas should not decrease below 0.5, and should not be higher than 0.8 as the percentage of evapotranspiration increases;
- ✓ Clear cuts should be prohibited.
- ✓ Areas close to the water sources have to be managed more carefully, the land surface has not to be damaged during timber transporting, timber logging have to be least intensive or not carried out at all.

3. The staff involved in forestry activities has to be trained according to the limitations caused by the identified HCVs and the measures for their protection.

4. The forest managers shall search compensations for missed benefits or extra costs during the process of sanitary protection areas development.

RECOMMENDATIONS AND INSTRUCTIONS FOR MONITORING OF HCV 4.1

Forest managers shall make use of the water monitoring carried out by expert bodies – RIEW, or water economy companies.For water sources not included in the above mentioned monitoring, forest manages shall conduct periodic consultations with the relevant stakeholders.

HCV 4.2 Forests critical for the regulation of water flow in catchments

RATIONALE

Forests are substantial factor for maintaining terrain stability and controlling erosion. They have an important role in preventing flooding, stream flow regulation and water quality.

Where a forest covers a large area of the water catchments, it has a critical role in maintaining the water quantity and quality. The greater the importance of the water catchments in terms of flooding, drought risk or water usage, more likely the forest is crucial for maintaining these functions and more likely the forest is a HCVF. Sometimes forests prevent erosion and landslides in areas where the consequences in terms of loss of productive land, damage to ecosystems, property loss or loss of human life, could be severe. In these cases the ecosystem service provided by the forest is critical and it should be considered as HCV.

DEFINITION, CRITERIA AND THRESHOLDS

In Bulgaria the following LFFF are HCV 4.2.:

- LFFF included in the water catchment areas of torrential water currents whose forest cover exceeds 40%;
- *Pinus mugo* communities;
- LFFF forming the high forest border (HFB) and regulated under the Forests Act or included in the 200 m belt below the HFB;

- Natural riparian forests of *Q. pedunculiflora, Q. robur, Fr. oxycarpa, Ulmus minor, U. laevis, Salix alba, Alnus glutinosa, Popolus alba, P. nigra, Platanus orientalis*, included in the pourable terrace of river currents;
- Forests between the dyke and the right bank of the Danube, island forests and the 200 m forest belt at the high riverbank;
- Forests in the 100 m belt of Maritza, Toundja, Mesta, Strouma, Arda, Lom, Tzibritza, Ogosta, Skut, Iskar, Yantra, Vit, Sazlijka, Stryama, Ossam, Roussenski Lom, Kamchiya, Veleka and Rezovska (the Bulgarian part of it) Rivers;
- LFFF included in sanitary protection area 3 of drinking water dams, regulated under Ordinance 3 of 2000.

IDENTIFICATION OF HCV 4.2

1. The forest manager must identify if the forests fall within any of the HCV 4.2 definitions.
2. The forest manager must identify if forests in the MU fall within catchment areas of water currents with torrential nature (with irregular alterations in the water flow, depending on the intensity and quantity of rains). As sources of information can be used hydro-meteorological stations, the divisions of the Department for Civil Protection and data from local municipalities for the torrential activity shown to date.
3. In case such forests are identified, past torrential activities (flooding) and their character must be checked.

RECOMMENDATIONS AND GUIDANCE FOR MANAGEMENT OF HCV 4.2

1. The locations of all potential HCV areas in the MU have to be mapped. It is recommended to use forest management materials and consult relevant experts. Field checks has to be done in order to ensure accuracy of the mapped information.
2. The identified forests with water protection and water regulation functions must be mapped.
3. The planning and forestry activities in the HCVFs have to maintain and improve HCV 4.2. These are some general recommendations for forestry activities:

✓ Forestry management systems providing permanent forest cover in forested water catchments have to be used in order to decrease the surface water flow;
✓ If appropriate, afforestation activities increasing the forest cover of the water catchments have to be carried out;
✓ The establishment and maintenance of mixed forest stands with uneven spatial structure have to be supported;
✓ The density/fullness of forest stands within the water catchments has to be above 0.5;
✓ Clear cuttings shall be forbidden;
✓ Technological schemes and equipment have to be used to provide minimum damage of the land surface during timber transportation;
✓ When forestry activities are finalized, rehabilitation of damaged areas (i.e. forest skid trails) have to be carried out;
✓ Forest management activities at *Pinus mugo* communities shall not be allowed.

4. The staff involved in forest management activities shall be trained and acquainted with the limitations caused by the presence of HCVs and the measures for their protection.

RECOMMENDATIONS AND GUIDANCE FOR THE MONITORING OF HCV 4.2

To organize and implement a system for annual monitoring that takes into account the condition and changes in key parameters of the HCV 4.2 forests. It is also recommended to make use of the data of water monitoring carried out by the competent authorities (Regional Inspectorates of Environment and Waters and/or water management companies).

HCV 4.3 Forests critical for erosion control

RATIONALE

In a number of cases forests play an extremely important role in controlling erosion and landslide processes especially where serious consequences are possible such as loss of arable land, disruption of ecosystems, loss of property or danger to the safety of people.

The LFFF of the following regions and soil types are potentially endangered by the development of erosion processes:

Regions:

Erosion processes: The ridges and southern slopes of the Balkan, Rhodope, Rila, Pirin, Vitosha, Belassitza, Ograzhden, Malashevska, Ossogovska and Konyavska mountains.

Avalanche processes: The slopes of Central Balkan, Rila, Pirin, Vitosha, Ossogovska Mountain and the western parts of the Rhodope mountain.

Soil types (The forest management classification is used)

Maroon forest soils, brown forest soils, mountain-forest dark-coloured soils, mountain-meadow soils, humus-carbonate soils, alluvial and delluvial soils, anthropogenic soils, under-developed and degraded soils. (according to FAO Primitive Soils category)

DEFINION, CRITERIA AND THRESHOLDS

For Bulgaria the following LFFF are considered to possess HCVs:

- ✓ Forest territories on slopes of more than 30° (or less, if located under arable land, meadows, clearings, rows that have a slope of more than 10° and a length of more than 200 m) with an area of more than 1 ha and a density of more than 0 ,6;
- ✓ Forests grown under technical projects for erosion control, regulation, bank-protection and wind-protection forest belts;
- ✓ Forests protecting settlements or communication structures, located on the path of already fallen avalanches (data from the Mountain Rescue Service), forests into the snow catchment areas with slope above 20°, forests situated under deforested snow catchment areas with length over 200 m and slope above 20°;

IDENTIFICATION OF HCV 4.3

1. Identify if the forests fall within some of the HCV 4.3 definitions.
2. Identify the sites within the management unit located on slopes above 30°. Information about this can be collected from forest management documentation and field checks. Relevant authorities or experts can also be contacted.

3. Consider snow catchment areas on slopes above 20º - 60° providing formation of snow cover of above 0,5 m depth. Information concerning potential hazardous areas regarding avalanches can be received from the Mountain Rescue Service. Monitoring of the opposite slopes is recommended.
4. Typical examples of forests containing HCV 4.3 are:

- Forests above 1500 m altitude.
- Forests located on:
  - heavily cracked rocks;
  - areas with weak connections between the elements of the main rock;
  - areas with intensive weathering processes of the main rock;
  - peripheries of plateaus;
  - banks of water courses, preventing the erosion of the base of the slope;;
  - forests in the list of avalanche dangerous areas according the Mountain Rescue Service data.
  - territories where avalanches had already fallen can be recognized by signs such as: stripes
    of broad-leaved or younger coniferous forests located in the direction of the slope within older coniferous forests on steep terrains.

RECOMMENDATIONS AND GUIDANCE FOR MANAGEMENT OF HCV 4.3

1. The management of forests with HCV 4.3 have to comply with the requirements of the Forestry Act regarding forests with special designation aiming at the prevention of erosion processes.
2. The planning and management activities in the HCVFs have to comply with the specifics of HCV 4.3.

Some general recommendations for forest management activities are the following:
In forests with crucial anti-erosion importance:

- ✓ When a forest stand of the HCVF 4.3 list has one or more additional purposes (for example recreational forest), the forestry activities have to achieve balance between the purposes but the anti - erosion function is a priority;
- ✓ Forest management activities has to be chosen that provide permanent forest cover with density of the forest stands not less than 0,5
- ✓ Mainly thinning and sanitary loggings have to be carried out;
- ✓ Rejuvenation felling is allowed in coppice forests of fast regeneration species.
- ✓ Clear felling and short-term gradual felling shall not be carried out in very steep areas (31-45º);
- ✓ In stony and ravine areas (above 45º) all forestry activities are forbidden;
- ✓ Equipment and technologies for clear felling shall cause minimum damage to the vegetation and soil cover.
- ✓ If appropriate, afforestation activities are provided with priority to native tree species

In forests with crucial importance for prevention of landslides and screes:

- ✓ Loggings are not allowed;
- ✓ Activities providing additional vegetation have to be carried out;
- ✓ Activities strengthening the stability of the bottom of slopes at water currents shall be stipulated (including the building of balancing technical infrastructure).

In forests preventing the avalanches:

- ✓ The assessment of forest stands' stability is important as well as the implementation of strengthening measures if necessary;
- ✓ If forest management activities are necessary then cautious interventions with low intensity are recommended;
- ✓ Clear felling is forbidden;
- ✓ Wide-open areas should not be created during the regeneration cutting as well as open areas at the slope direction;
- ✓ Management activities shall be used that provide group structure, age diversity and maximum density of the forest;
- ✓ Management activities shall be used that promote the natural regeneration of vegetation
- ✓ Forest management activities at *Pinus mugo* communities shall not be allowed

3. Skid trails, log yards and clearings that need rehabilitation have to be identified and mapped. When timber production is finalized, relevant restoration activities have to be carried out, according to the terrain damage.
4. Management plans or rules for rehabilitation of damaged areas or other areas threatened by erosion and/or areas where the monitoring indicates high levels of erosion have to be developed.
5. The staff involved in forest management activities shall be trained and acquainted with the limitations caused by the presence of HCVs and the measures for their protection.

RECOMMENDATIONS AND GUIDANCE FOR THE MONITORING OF HCV 4.3

1. An adequate monitoring system should be developed and implemented for the forests with HCV 4.3. It is recommended that experts from the Regional Environmental Inspectorate are contacted and consulted.
2. In forests with crucial anti-erosion importance short-term and long-term monitoring have to be carried out:
- ✓ Short-term monitoring – current erosion activities (damaged areas). Annual monitoring;
- ✓ Long-term monitoring – the depth of soil profile and dead forest cover (DFC) are measured. Monitoring at every 10 years.
3. In forests preventing landslides and screes the dynamics of the following parameters are monitored:
- ✓ For existing screes the volume of accumulated materials is measured;
- ✓ Spatial dynamic of the landslide;
- ✓ Spatial (volumetric) dynamic of the area under destruction.
- ✓ Annual monitoring shall be carried out.

4. In forests preventing the formation of avalanches existing avalanche activities are monitored. Annual monitoring is carried out.

HCV 4.4. Forests providing fire barrier

RATIONALE

Fires are part of the natural dynamics of forest ecosystems. Forest fires, whether originating from natural or anthropogenic causes, can transform into destructive and uncontrolled fires that can be a serious threat to human life and property, economic activity, endanger ecosystems or species.

Fires have serious and continuing impact on Bulgarian forests during the last 10 years. The importance of protection of all Bulgarian forests from further fire damage is recognized. A single forest stand in a key position can prevent fire spreading to other areas. A Well-developed and dense deciduous forest is more resistant to fires than a sparse deciduous or coniferous forest. Other point of view is that the forest has to be very well-developed with dense crown cover that will limit the grass and bushes growth underneath. This implies the limitation of activities that reduce crown density, leave easily flammable residues and that cause the appearance and development of plant species in the lower forest strata until the forest has restored its more compact crown density.

DEFINITION

All deciduous forests among coniferous forest stands, between coniferous stands and settlements, between coniferous stands and agricultural, that are minimum 100m and maximum 250 m wide and include deciduous species except Birch, Acacia and Poplar hybrids are HCVF.

IDENTIFICATION OF HCV 4.4

1. Surveys of the fire situation in the area of the management unit should be carried out considering the history, causes and predictable activity of fires. Information can be obtained from relevant authorities or experts, maps of the landscape, forestry plans and field surveys. The use of Geographical Information Systems (GIS) is very suitable for identifying such forests in larger forestry units.
2. It has to be determined if a trend is existing for the break out of large-scale fires near or bordering the MU.

RECOMMENDATIONS AND GUIDANCE FOR MANAGEMENT OF HCV 4.4

1. The integrity of forests shall be ensured as a preventive measure against serious fire damages. Forests that are fragmented, have open canopies or have experienced high harvesting intensities, are more prone to fire damage.
2. The deciduous composition in the existing deciduous forests strips has to be preserved and maintained. The tree density/fullness in them shall be kept above 0.7.
3. In case no such strips exist, relevant afforestation schemes have to be used for establishment of buffer zones with fire resistant tree species.
4. Development of fire-fighting plans, including standard operating procedures for fire-fighting and training of the staff shall be implemented, complying with the requirements forest legislation in the country.

RECOMMENDATIONS AND GUIDANCE FOR THE MONITORING OF HCV 4.4

In the forests representing HCV 4.4, annual monitoring shall be carried out regarding the frequency and areal distribution of ignitions and fires in the forestry unit. The implementation of the annual monitoring system shall take into account the condition and changes in the key parameters of these forests.

HCV 4.5. Forests with critical importance for agriculture

The complete heading of HCV 4.5 is as follows: Forests with critical importance for the protection of agricultural activities (agriculture, aquaculture) and infrastructure sites

RATIONALE

Where forest areas are close to agricultural lands, fishing or tourist regions, or include main habitats of fishes, their impact can sometimes be crucial to maintain the resources or the production of the relevant economic activities. The impact will vary according to the climate and topography, spatial configuration of the agricultural land, types of crops and the forest itself. Forests influence also the fish resources in water bodies passing by or located within them. The consequences from agricultural, aqua and fish production loss as well as tourist income will also vary depending on the social and economic circumstances. Communities for which agriculture or fishery is the main livelihood are particularly vulnerable from production loss. Forests established particularly for the protection of infrastructure have critical importance for maintenance of economic activities and existing infrastructure sites. Their crucial importance and meliorative influence includes stabilization of the environment surrounding technical facilities, development of optimum regime for isolation from vehicles, accumulation of toxic substances, noise insulation, decrease of evaporation from inter-canal areas, etc.

This element of HCV 4 aims to identify forests that have crucial importance in maintaining the services on which agricultural production, fish supply and infrastructure depend. Potential for critical impacts over agriculture and fish resources could have forests located within arable lands in the regions of the Danube Plain, Dobroudja and Eastern Trakiya (Thrace), as well as floodplain forests along the banks of all rivers and the upper reaches of rivers acting as fish reproduction sites. Some of the regimes for the forests protecting infrastructure and technical facilities are: 100 m wide forest strip on both sides of railways, motorways and gas-pipes, 50 m wide strip along first-class roads, 10 m wide strip on both banks of irrigation channels, etc.

DEFINITION

All forests with crucial of crucial importance for agriculture, fish resources and infrastructure are HCVFs when they are :

1. Forest strips adjacent to arable lands, that have been created as, or function as field protection forest belts, and are up to 100 m wide;
2. Riparian forests dominated by different *Salix* species along the Danube river bank and on the Danube islands, flooded at high water, as well as along the banks of Maritza, Tundja, Mesta Strouma, Arda, Lom, Tzibritza, Ogosta, Skut, Iskar, Yantra, Vit, Sazlijka, Stryama, Ossam, Roussenski Lom, Kamchiya, Veleka and Rezovska rivers.

3. Forests planted for the protection of technical facilities.

IDENTIFICATION OF HCV 4.5

It shall be identified if forests complying with HCV 4.5 requirements are located within the MU. Sources of relevant information can be the following: forest management plans, maps of forest areas, land usage maps, social research, consultations with local communities and stakeholders, data from the field work, etc.

RECOMMENDATIONS AND GUIDANCE FOR MANAGEMENT OF HCV 4.5

1. Any threats to key forest functions from forest management operations have to be assessed. After the assessment, consultation with communities, relevant experts and authorities has to be organized to determine how external activities affect critical forest areas. Then measures should be taken to mitigate potential future threats.
2. Measures for the protection or restoration of damaged areas have to be developed after the assessment of external threats.
3. The most effective in practice for the forests planted or functioning as field-protection forest belts is the) penetrable shelterbelts. Management should be orientated to creation and maintenance of openwork belts through development of tree (upper) and shrub (lower) storey. If the length distribution is regular the openwork along the whole height should be no less than 30%.
4. The status of fish resources is crucial for riparian forests due to the fact that riparian forest communities are vulnerable to disturbances. No economic activities have to be planned or implemented in them. Protection and restoration activities for riparian communities have to be planned.
5. Planning and implementation of economic activities in riparian forests important for fish populations is not recommended. If necessary, activities are planned and carried out to restore the riparian forest communities.
6. The thinning in forests created for protection of technical shall be carried out with moderate intensity. Restoration activities shall provide gradual transition between the old and new forest generation, which shall not decrease substantially the protection functions of the forest. Only fellings with long regeneration period should be applied.

RECOMMENDATIONS AND GUIDANCE FOR THE MONITORING OF HCV 4.5

Adequate system for monitoring of critical forest areas has to be organized and implemented for HCV 4.5 forests. Updated maps and information from field work have to be used. Monitoring of the yields of arable lands and fish resources in critical areas is needed.

For the forests representing GVKS 4.5, an annual monitoring system should be organized and implemented, which would take into account the condition and changes in key parameters of these forests. Modern map materials and field information should be used. It is necessary to monitor changes in yields in arable land and fish resources in the respective territories.

HCV 5. Community needs.

The complete heading of HCV 5 is as follows: Community needs. Sites and resources fundamental for satisfying the basic necessities of local communities or Indigenous Peoples (for example for livelihoods, health, nutrition, water), identified through engagement with these communities or Indigenous Peoples

INTRODUCTION

Many conservation concepts assume that people always go against forests. The definition “high conservation value forests” (HCVFs) differ from them because it recognizes that some forests are essential to human wellbeing. The value aims protection of the livelihood and safety of local communities derived from forests - not only for “forest-dependent communities”, but also for any community that gets substantial and unique amounts of income, food or other benefits from the forest. HCV5 applies only to basic needs without other alternatives.

RATIONALE

A forest may be considered an HCVF if local communities obtain essential fuel, food, fodder, medicines or building materials from it, without other easy available alternatives. In these cases, the High Conservation Value is specifically identified as one or more of these basic needs. If the people of a community get their income only from a certain forest and have no alternative source of income, then that forest has a HCV.

Employment, income and products are values that have to be protected, if possible, without prejudice to other values and benefits. However, the HCV concept does not include over exploitation of the resources, even when communities are currently economically dependent on it. Overexploitation due to traditional practices is not tolerated especially if it damages or destroy the forests and their values.

The following forests are not HCV 5:

- ✓ Forests providing resources of minor importance to local communities.
- ✓ Forests providing resources that could easily be obtained elsewhere or that could be replaced by substitutes (livelihood, income from activities or subsidies – agriculture, crafts, services, industry, trade, social assistance, etc.)
- ✓ Forests providing resources that are extracted at unsustainable levels (unsustainable use, over exploitation, inappropriate activities).
- ✓ Forests providing resources obtained in a way that threats the maintenance of other HCVs.

Specific value may expand or decline over time, through changes in community needs and land use type. Specific forest, which was previously only one of many sources of supply, may become the only one, or the basic source of fuel wood or other products. The opposite can also happen - the needs may decrease and disappear after a time.

In Bulgaria communities living in adjacent to forest areas have a varying degree of dependency on forest resources. It can differ with regard to their traditions and history, but mainly with regard to their way of life, developed infrastructure and distance from other settlements.

The assessment of the availability of alternative sources may be a delicate question. Communications and market access are important factors. Isolated communities are likely to

have few market options and reduced access to alternative technologies to replace their forest-dependent livelihood model. Communities with easy market access and easy communication with traders and government services can easier shift to new livelihood type. However, this may be limited by access to land, technology and funds. All factors must be carefully taken into account. If doubt appears, it has to be considered that people do not have accessible substitute.

Another delicate moment is to make evaluation of the extent to which the use of forest products by the communities is sustainable and consistent with protection of other HCVs. As mentioned above, unsustainable levels of extraction cannot be considered as HCVs, as well as activities that threat the elements of HCVs 1, 2 or 3, as for example over exploitation, hunting or collection of endangered species. Consultations with ecological experts and sociologists are recommended in order to determine these interactions.

DEFINITION

The following resources can characterize HCV 5 in Bulgaria according to the community dependency level on them, existence of easy accessible substitutes and interaction with other HCVs:

- ✓ Firewood and wood for other daily needs
- ✓ Mushrooms
- ✓ Pasture and fodder – hay and leaf mass
- ✓ Other non-timber resources – medicinal plants, forest fruits, snails, products from hunting and others (non- timber forest products for trade including animals, resins, fruits, etc.)
- ✓ Water supply (water for drinking and for other daily needs (see HCV 4.1.)

Considering the existing sociological researches and following the implementation of a number of questionnaires and expert assessments, the present toolkit assumes that as a whole the population in Bulgaria has alternatives according to usage and incomes from forests and therefore HCV 5 is not clearly represented in the country. However since as a substantial part of Bulgarian forests are located near small and isolated mountain settlements having a potential for HCV 5, thus the managers/forest users in these regions have to check for the availability of HCV 5.

IDENTIFICATION OF HCV 5

PRELIMINARY ASSESSMENT

This assessment shall be carried out in accordance with the methodology in Appendix 5 of the Toolkit.

If the assessed forests meet the requirements of the definition of HCV 5 in Appendix 5, then the users of the Toolkit should carry out consultations for the presence of HCV 5 with the local authorities and religious, community and other leaders in the area with regard to the importance of forests for local people’s basic needs.

If the potential presence of HCV 5 is confirmed by the local authorities and community leaders, the owners/users of the forest territories should proceed with the implementation of full assessment to establish the presence of HCV 5.

The implementation of full assessment also is obligatory in the cases of obvious conflicts between forest manager/user and local authorities.

FULL ASSESSMENT

This assessment is made according to the developed methodology in *Annex 6*.

RECOMMENDATIONS, GUIDANCE FOR MANAGEMENT AND MONITORING OF HCV 5

The recommendations and guidance for management and monitoring of HCV 5 forests are presented also in *Annex 6.*

HCV 6. Cultural values.

The complete heading of HCV 6 is as follows: Cultural values. Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or Indigenous Peoples, identified through engagement with these local communities or Indigenous Peoples.

INTRODUCTION

As well as being essential for human livelihood and survival, forests can be crucial for cultural values of the societies and communities. This value is designed to protect the traditional culture of local communities where the forest is crucial to their identity. Thereby maintenance of cultural integrity of local communities and society as a whole is provided.

RATIONALE

A forest may be designated as HCVF when having or providing values without which the local community would suffer a severe change in culture or for which the community does not have any alternative. According to the regulations in the country, about 40 000 cultural heritage sites in Bulgaria have the status of cultural monumentc (immovable cultural heritage). Some of these are located in forests or are closely related to woodlands. At the same time, certain sites in woodlands are important for the culture and the historical memory of local communities but are not classified by state authorities. Due to the specific socio-economic conditions in Bulgaria, the development of various forms of tourism (ecotourism, educational tourism, hiking, photo-safari, etc..) that are directly related to forest areas is of key importance for many local communities, including for promoting and preserving the local traditions and culture. In this sense, HCV 6 includes forest areas that are of importance for tourism when it supports and fosters the preservation of local traditions, customs and culture.

DEFINITION

1. Forest areas within a strip of 500 m around religious sites listed in Annex 7;
2. Forest areas within a strip of 100 m around monastreries and other religious sites not listed in Annex 7 (churches, chapels, shrines, holy springs, tekkes, etc..), ancient temples, occult centers, archaeological monuments and excavations as well as

other sites identified during consultations with local people that are important for preserving spirituality, traditions, historical and cultural memory;

3. Forest areas within a strip of 100 m around sites traditionally used for fairs, singing competitions and other events identified during consultations with local people that are important for preserving the cultural heritage and national traditions;
4. Forest areas within cultural heritage sites (cultural monuments) or within their protection areas;
5. Forest areas located in the immediate vicinity (within a 30 m strip / 15 m on either side of the trail) along officially marked hiking trails and unmarked but commonly used hiking trails;
6. Forest areas within a strip of 50 m around tourist sites, as well as forest areas of outstanding aesthetic and recreational value (including single trees or small groups of trees – e.g. venerable or remarkable trees), fountains, alcoves, educational trails and other sites important for tourism and education, identified in consultation with local people and tourist groups, associations and companies active in the region.

IDENTIFICATION OF HCV 6

FULL ASSESSMENT

Identification of forest areas matching the definition of HCV 6 begins with checking whether the managed / utilized forest areas or parts of them are listed in Annex 7.

The list under Annex 7, however, should not be considered exhaustive – it needs to be updated in the course of time and users of this toolkit should therefore carry on with the next steps for identifying the existence of HCV 6 in consultation with local communities.

It shall be checked whether the forest areas fall within the boundaries of immovable cultural heritage sites (monuments of culture) or in their areas of protection designated under the relevant legislation (HCV 6, item 4). This can be achieved as the forest owner/user submits an application form to the Director of the National Institute for Immovable Cultural Heritage (NIICH). Templates of application forms are available on the website of NIICH. Information about the status of a forest area under HCV 6, item 4 may be obtained from the municipality, the city-hall (Culture Department) or the local museum (of history or ethnography), as well as other institutions related to the Ministry of Culture. In any case, an official certificate shall be issued by the relevant institution, authorized to this end, which consults with the National Scientific and Documentary Archive in NIICH. It is necessary to get official information about the applicable regimes for the relevant sites of immovable cultural heritage. Relevant information can also be obtained from local communities, NGOs or scientific institutions.

The assessment for identifying HCV 6 can be considered complete if consultations with key representatives of the local communities have been undertaken to identify, among others, the sites of importance for the culture and traditions that are not explicitly listed to the state regulations.

For identifying HCV 6, item 5 and item 6 (see sub-section “Definition” above), it is essential to have consultations with tourist groups, associations and companies that are active in the area. For the purpose of identifying the archaeological sites under HCV 6, item 2 and item 3, it is also necessary to have consultations with local, regional and national historical and archaeological museums, archaeological, historical and ethnographic museums, cultural centers and institutes, community centers, mayors, informal local leaders, local historians, cultural anthrpologists and other stakeholders.

RECOMMENDATIONS AND GUIDANCE FOR MANAGEMENT OF HCV 6

1. Forest operations are carried out according to the regimes stipulated in the orders for promulgation of the cultural heritage monuments.
2. It is recommended that in the forests defined as HCV 6 any operational /management activities with the exception of removal of dangerous to human safety trees are not conducted.
3. If after all a decision is made to implement management activities, those are coordinated / agreed with local community representatives and experts (cultural anthropologists, historians, an expert in tourism, etc.) in order to identify and retain key aesthetic characteristics of the forest. Activities leading to change of the landscape value and/or decrease of the value of the forest as HCV shall not be implemented. Certain fellings that would reduce the aesthetic appearance of the forest near important for the culture, traditions and tourism sites shall not be implemented (incl. clear cuttings and felling with great intensity). Particular attention should be paid to maintaining and possibly improving the aesthetic and protective functions of the forest by keeping the dead standing and lying trees, living single trees and groups of trees with interesting interior features (hollow trees, old trees, etc.)
4. Forest management activities shall not be implemented in HCV 6 sites during the high tourist seasons and periods of holding the traditional fairs or cultural, historical and religious events of the local population.

RECOMMENDATIONS AND GUIDANCE FOR THE MONITORING OF HCV 6

1. Once in every five years to verify if the HCVs retain critical importance according to the definition of HCV 6 (through consultations with representatives of local communities and experts).
2. To implement annual control over the compliance of the regimes of the cultural heritage monuments specified in their orders.
3. To implement annual control over the activities stipulated in forest plans, including their compliance with the recommendations and guidelines for management of the designated HCV 6.
4. It is recommended that documentary check and pictures are included in the monitoring.

ANNEXES of HCVF Toolkit

Annex 1A of HCVF Toolkit: Plant species indicators for HCV

LIST OF ENDANGERED, THREATENED WITH EXTINCTION AND ENDEMIC PLANT SPECIES IN BULGARIA, INDICATORS FOR HIGH CONSERVATION VALUES IN FORESTS

A. Endemic, rare and endangered plant species

1. **Ground Cedar** (Diphasiastrum complanatum (L.) Holub) – regionally extinct, listed in BDA, occurring in various habitats having a wide range of environmental conditions, established in the Western Rhodopes.
2. **Calabrian Pine** (Pinus brutia Ten.) – critically endangered, listed in BDA, occurring in xerothermic habitats in the Eastern Rhodopes.
3. **Common Yew** (Taxus baccata L.) – endangered, listed in BDA, occurring in shady, damp places along streams, in the composition of deciduous and mixed coniferous-deciduous forests.
4. **Thracian oak** (Quercus thracica Stef. & Nedjalkov) – extinct, listed in BDA, endemic to Bulgaria, occurring in the Eastern Rhodopes.
5. **Quercus mestensis** (Bondev & Gancev) – critically endangered, listed in BDA, endemic to Bulgaria, occurring west of Belitsa.
6. **Kermes Oak** (Quercus coccifera L.) – endangered, listed in BDA.
7. **Horse Chestnut** (Aesculus hippocastanum L.) – endangered, listed in BDA, endemic to the Balkans, tertiary relict, occurring in the Eastern Balkan Mountains.
8. **Sweet Chestnut** (Castanea sativa Mill.) – endangered, listed in BDA, established in the Western Balkan Mountains, Belasitsa, Slavyanka, the valley of Mesta River, Pirin, Western Rhodopes.
9. **Iguana Hackberry** (Celtis glabrata Stev.) – endangered, tertiary relict, established in North- Eastern Bulgaria, the Danubian Plain, Eastern Balkan Mountains, Eastern Rhodopes, Thracian Lowland, Tundzha Hilly Plain, Strandzha.
10. **Alpine Buckthorn** (Rhamnus alpina L.) – endangered, listed in BDA.
11. **Heldreich's Maple** (Acer heldreichii Orph.) – vulnerable, listed in BDA, endemic to the Balkans.
12. **Bay Willow** (Salix pentandra L.) – critically endangered, listed in BDA, relict, established in Vitosha and in Znepole Region.
13. **Rosemary Leaved Willow** (Salix rosmarinifolia L.) – critically endangered, listed in BDA, established in Sofia Region.
14. **Salix xanthicola** K.I. Chr. – vulnerable, listed in BDA, endemic to the Balkans, occurring along streams in Southern Bulgaria.
15. **Caucasian Whortleberry** (Vaccinium arctostaphylos L.) – endangered, listed in the Bern Convention, listed in BDA, tertiary relict, occurring in shady forests of oriental beech and oriental durmast.
16. **Chamaecytisus frivaldszkyanus** ((Degen) Kuzmanov) – endangered, endemic to Bulgaria, occurring in sparse oak and hornbeam forests in the regions of Pleven, Plovdiv, Lovech, Turnovo, Haskovo, Stara Zagora.
17. **Chamaecytisus kovacevii** ((Velen.) Rothm.) – endangered, endemic to Bulgaria, listed in BDA, occurring in sparse oak and hornbeam forests in the regions of Pleven, Ruse, Montana, Sofia, Stara Zagora.
18. **Black Currant** (Ribes nigrum L.) – critically endangered, listed in BDA, established in the Western Rhodopes.
19. **Webii Wild Almond** (Amygdalus ×delipavlovii S. Seraf) – critically endangered, listed in BDA, occurring in rocky and dry places, forming shrub communities with Jasminum fruticans, Paliurus spina-christi, Pyrus amygdaliformis, etc.
20. **Common Holly** (Ilex aquifolia L.) – endangered, listed in BDA, tertiary relict, occurring in moist and shady beech and mixed forests as undergrowth.
21. **Colchic Holly** (Ilex colchica Pojark.) – endangered, tertiary relict, listed in BDA, occurring in the evergreen undergrowth of moist and shady forests of oriental beech.

22. **Greek Strawberry Tree** (Arbutus andrachne L.) – critically endangered, listed in BDA, occurring in Mediterranean low-stem shrubs and groves, mostly on rocky hillsides; established in the Rhodopes (Eastern – the villages of Dolno Lukovo, Gorno Lukovo, Mandritsa, Kostilkovo, Cherna Cherkva).
23. **Strawberry Tree** (Arbutus unedo L.) – critically endangered, listed in BDA, occurring in Mediterranean low-stem evergreen or deciduous shrubs and groves on rocky limestone or sandstone slopes; established in the Eastern Rhodopes and Strandzha.
24. **Small-leaved Hawthorn** (Crataegus microphylla C. Koch) – critically endangered, listed in BDA, occurring in dense forests within wetlands with high humidity.
25. **Asperula involucrata** (Wahlenb). – critically endangered, listed in BDA, occurring in light beech forests; established in Strandzha.
26. **Spurred Helleborine** (Cephalanthera epipactoides Fisch. & C.A. Mey.) – critically endangered, listed in BDA, established in the Eastern Rhodopes.
27. **Colchicum diampolis** (Delip. & Cheshm.) – critically endangered, endemic to Bulgaria, listed in BDA, occurring in glades within dense forests in the region of Yambol, Znepole, the Tundzha Hilly Plain.
28. **Lady's Slipper Orchid** (Cypripedium calceolus L.) – critically endangered, listed in BDA, relict, occurring in coniferous, mixed and deciduous forests, thickets and glades; established in the Rhodopes.
29. **Eranthis bulgaricus (Stef.)** – critically endangered, endemic to the Balkans, listed in BDA, occurring in deciduous forests and thickets, as well as in grasslands along the outskirts of forests.
30. **Lebanese wild apple** (Eriolobus trilobata (Poir.) M. Roem.) – critically endangered, listed in BDA, included in the World List of Endangered Trees as rare species. Occurring in xerothermic sparse deciduous forests and their outskirts; established in the Rhodopes.
31. **St. John's Chamomile** (Anthemis sancti-joannis Stoj.,Stef. & Turrill) – endangered, listed in BDA, endemic to Bulgaria, occurring in sparse beech, spruce and mixed forests in Rila, Slavyanka, and Mid Balkan Mountains.
32. **Fritillaria drenovskyi** (Degen & Stoj.) – critically endangered, listed in BDA, endemic to the Balkans, Bern Convention, glades in beech and pine forests; established in Slavyanka and Southern Pirin.
33. **Fritillaria stribrnyi** (Velen.) – critically endangered, listed in BDA, endemic to the Balkans, occurring in grassy places within sunlit low-stem deciduous forests (dominated by pubescent oak) in the regions of Plovdiv and Yambol.
34. **Round-leaved Birthwort** (Aristolochia rotunda L) – endangered, listed in BDA, occurring individually in xerothermic light oak forests mainly in the Eastern Rhodopes to a limited extend in the Thracian Lowland and Struma Valley.
35. **Betonica scardica** (Griseb.) – endangered, listed in BDA, endemic to the Balkans, occurring in sparse oak forests in the region of Kyustendil.
36. **Green Hound`s Tongue** (Cynoglossum germanicum Jacq.) – endangered, listed in BDA, occurring in woody and shady places within the Mid Balkan Mountains on limestone in mixed beech and hornbeam forest.
37. **Grecian Foxglove** (Digitalis laevigata Waldst. & Kit.) – endangered, endemic to the Balkans, occurring in grassy and rocky places, among thickets and thinned forests of Carpinus orientalis, Corylus avellana, Fagussylvatica, Abies alba, and Castanea sativa forests.
38. **Daphne-laurel** (Daphne laureola L.) – endangered, listed in BDA, occurring in shady beech and fir forests.

39. **Pontic daphne** (Daphne pontica L.) – endangered, listed in BDA, preglacial relict; established in Strandzha.
40. **Violet Helleborine** (Epipactis purpurata Sm.) – endangered, listed in BDA, occurring in well preserved shady beech forests.
41. **Giant Snowdrop** (Galanthus elwesii Hook.) – endangered, listed in BDA, occurring among thickets, forests, rocky meadows on calcareous soils, in river valleys within the lowland and foothill belt on rich alluvial soils.
42. **Common Snowdrop** (Galanthus nivalis L.) – endangered, listed in BDA, occurring among thickets, forests, rocky meadows, in river valleys within the lowland and foothill belt on alluvial soils.
43. **Broad-leaved Bellflower** (Campanula latifolia L.) – endangered, listed in BDA, occurring in the Western Balkan Mountains.
44. **Galium rhodopeum** (Velen.) – endangered, listed in BDA, included in the Bern Convention, endemic to the Balkans, tertiary relict. Participating in the grass layer of Quercus pubescens and Carpinus orientalis communities.
45. **Bohemian Crane's-bill** (Geranium bohemicum L.) - endangered, listed in BDA,occurring in the lower parts of the mountains in mixed deciduous forests with dominated by Quercus petraea, Carpinus betulus, Fagus sylvatica.
46. **Bulbous Crane's-Bill** (Geranium tuberosum L.) - endangered, listed in BDA, occurring in oak forests.
47. **Creeping ladies tresses** (Goodyera repens (L.) R. Br.) – endangered, listed in BDA, relict, occurring in pine and fir forests, mixed conifer and sometimes coniferous-deciduous forests in the Balkan and Rhodope Mountains.
48. **Tutsan, Sweet Amber** (Hypericum androsaemum L.) – endangered, listed in BDA, occurring in moist, shady gullies in the forests of Strandzha.
49. **Creeping St. John's Wort** (Hypericum calycinum L.) – endangered, listed in BDA, occurring in shady gullies, thinned forests and riverbanks in Strandzha.
50. **Two-Flowered Everlasting-Pea** (Lathyrus grandiflorus Sibth. & Sm.) – endangered, listed in BDA, occurring in deciduous forest communities in the region of Znepole, Osogovska Mountain, Belasitsa, Slavyanka, Rila.
51. **Lathyrus transsilvanicus** ((Spreng.) Fritsch) – regionally extinct, listed in BDA, occurring in shady oak forests on brown forest soil.
52. **Creeping-Rooted Medick** (Medicago carstiensis Wulfen) - endangered, listed in BDA, occurring in beech and mixed beech and chestnut forests.
53. **Wild Peony, Male Peony** (Paeonia mascula (L.) Mill.) - endangered, listed in BDA, relict, occurring in sunlit places within oak and oriental-hornbeam forests.
54. **Turkish Squill** (Scilla bithynica Boiss.) - endangered, listed in BDA, occurring in moist dense forests.
55. **Serbian Woundwort** (Stachys serbica Pančić) – endangered, endemic to the Balkans, listed in BDA, occurring in sparse oak forests in the region of Kyustendil, Kardzhali and Yambol.
56. **Stachys balcanica** (P.W.Ball) – endangered, listed in BDA, endemic to the Balkans, occurring in gullies and dry oak forests in the Eastern and Central Rhodopes.
57. **Claspleaf Twistedstalk** (Streptopus amplexifolius (L.) DC.) – endangered, listed in BDA, occurring in moist shady spots within spruce forests and shaded rocky places.
58. **Pontic Fritillary** (Fritillaria pontica Wahlenb.) – endemic to the Balkans, occurring in various types of forests in Eastern and Southern Bulgaria.
59. **Common columbine, Granny's nightcap (**Aquilegia vulgaris L.) – in forests and thickets.
60. **Intermediate Wintergreen** (Pyrola media Swartz) – in damp shady places in forests.

61. **Eastern Sowbread** (Cyclamen coum Miller) – listed in the Bern Convention, occurring in oak forests and thickets.
62. **Rhodope Toothwort** (Lathraea rhodopaea Dingler) – endemic to the Balkans, included in the IUCN List (R), occurring in moist forests in the Rhodopes, the region of Plovdiv, Slavyanka, Belasitsa and Rila.
63. **Pyrus bulgarica** (Khutath. & Sachok.) – endemic to Bulgaria, occurring within thickets along oak forests in the Eastern Balkan Mountains, the Black Sea Coast, Lyulin, the Tundzha Hilly Plain and Strandzha.
64. **Oriental Plane** (Platanus orientalis L.) – along rivers.
65. **Abraham-Isaac-Jacob** (Trachystemon orientalis (L.) G. Don f.) – within forests in the Eastern Balkan Mountains, Strandzha and the Black Sea Coast.
66. **Centaurea wagenitziana** (Bancheva & Kit Tan/C. amplifolia auct. bulg.) – endemic to the Balkans, critically endangered, listed in BDA, included in the IUCN List, occurring in oak (Quercus frainetto – Quercus cerris) forests in the region of Burgas (Mandra Village).
67. **Pea Vetch, Pale-flower Vetch** (Vicia pisiformis L.) – within deciduous shrubs and forests.
68. Great Wood Vetch (Vicia dumetorum L.) – within deciduous shrubs and forests.
69. **Round-Leaved Alexander** (Smyrnium rotundifolium Miller) – within forests and thickets in the Struma Valley, the Eastern Rhodopes and the Tundzha Hilly Plain.

For each of these species there is available information about their distribution in Bulgaria. Toolkit users should check whether any of these species possibly occur in the region covering the forest they manage and how it looks like.

Annex 1B of HCVF Toolkit: Animal species indicators for HCV

Table 3: List of endangered, threatened with extinction and endemic animal species in Bulgaria, indicators for High Conservation Values in forests and measures for conservation of their habitats

No.	English / Latin Name	Conservation Status	Threshold	Conservation Measures

1	Brown bear Ursus arctos	In Bulgaria: RDB – endangered EN, BDA-II, III; International: IUCN-LC; BeC-II; CITES-II;	Existing den, inhabited at least twice in the last 10 years, or area located within a corridor providing for the natural connectivity of the population.	No operations undertaken within a radius of 300 m around the den. In case of a corridor, concerted operations could be carried out depending to the width of the corridor. Intensive logging or installation of game retention fences are not allowed in a corridor narrower than 1000 m.
2	Otter Lutra lutra	In Bulgaria: RDB- vulnerable VU; BDA-II, III; International: IUCN-NT; BeC-II; CITES- I; HD-II, IV	Existing lair	No operations allowed within a radius of 100 m around a lair (including corrections of rivers, construction of dikes, clearing of coastal vegetation, extraction of aggregates, construction works). At places, where necessary, riparian vegetation shall be restored.
3	Lynx Lynx lynx	In Bulgaria: RDB- critically endangered CR; BDA-II, III; International:	Presence of the species and existing habitable lair	No operations to be undertaken within a radius of 400 m around a lair. Restricted felling in areas where presence of the species is established, as well as around and within rocky habitats suitable for building of lairs. Effective control on poaching and on the intensive use of deer
4.	Pine marten Martes martes	In Bulgaria: RDB- endangered EN; BDA-II, III; International: IUCN-LC; HD II V	Presence of the species	Restricted use of old forests and confined pools. Ban on the logging of old hollow trees (which are potential lairs) in areas where the presence of species is established.

5.	All the bat species	In Bulgaria: BDA-II, III; International: BeC-II; Bonn Convention and EUROBATS	Presence of the species	Ban on the logging of old hollow trees and of trees with peeled bark (potential shelters and wintering sites) in areas where the presence of bat species is established. Prohibition for storage of timber and felling debris at cave inlets. If the inlet to a cave or a crevice (potential or existing shelter for bats) is too overgrown and hinders the passage of bats, cleaning of the
6.	Western four-lined snake Elaphe quatuorlinea ta	In Bulgaria: RDB-endangered EN; BDA-II; III; International IUCN-NT; BeC-II; HD-II, IV	Presence of the species	Animals of this species shall not be collected, transferred or killed. The land that has suffered forest fires shall not be ploughed up. Subunits with undergrowth shall be left along the forest edge, if possible. Ecotone zones (zones between forest and open areas) shall not be cleared from shrubs.
7.	Blotched snake Elaphe sauromates	In Bulgaria: RDB-endangered EN; BDA-II; III; International BeC-II; HD-II, IV	Presence of the species	Animals of this species shall not be collected, transferred or killed. The land that has suffered forest fires shall not be ploughed up. Subunits with undergrowth shall be left along the forest edge, if possible. Ecotone zones (zones between forest and open areas) shall not be cleared from shrubs

8.	Leopard Snake Zamenis Situla	In Bulgaria: RDB-endangered EN; BDA-II; III; International IUCN-LC; BeC-II; HD-II, IV	Presence of the Species	Animals of this species shall not be collected, transferred or killed. The land that has suffered forest fires shall not be ploughed up. Subunits with undergrowth shall be left along the forest edge, if possible. Ecotone zones (zones between forest and open areas) shall not be cleared from shrubs.
9.	European pond turtle Emys orbicularis	In Bulgaria: BDA-II; III; International IUCN-NT; BeC-II; HD-II, IV	Presence of the species	Animals of this species shall not be collected, transferred or killed. No felling shall be undertaken in forests within a radius of at least 50 m around water bodies where the presence of species is registered. Water bodies used by the species shall not be drained up. Fallen decaying trees within a radius of at least 50 m around the water bodies where the presence of species is registered shall not be removed.
10	Balkan pond turtle Mauremys rivulata	In Bulgaria: RDB-vulnerable VU; BDA-II; III; International BeC-II; HD-II, IV	Presence of the species	Animals of this species shall not be collected, transferred or killed. No felling shall be undertaken in forests within a radius of at least 50 m around water bodies where the presence of species is registered. Water bodies used by the species shall not be drained up.Fallen decaying trees within a radius of at least 50 m around the water bodies where the presence of species is registered shall not

11.	Hermann's tortoise Testudo hermanni	In Bulgaria: RDB- endangered EN; BDA-II; III; International IUCN- NT; BeC- II;CITES- II HD-II, IV	Presence of the species	Animals of this species shall not be collected, transferred or killed. The land that has suffered forest fires shall not be ploughed up. Subunits with undergrowth shall be left along the forest edge, if possible. Ecotone zones (zones between forest and open areas) shall not be cleared from shrubs.
12.	Spur- thighed tortoise Testudo graeca	In Bulgaria: RDB- endangered EN; BDA-II; III; International IUCN- VU; BeC- II;CITES- II HD-II, IV	Presence of the Species	Animals of this species shall not be collected, transferred or killed. The land that has suffered forest fires shall not be ploughed up. Subunits with undergrowth shall be left along the forest edge, if possible. Ecotone zones (zones between forest and open areas) shall not be cleared from shrubs.
13	Northern crested newt Triturus cristatus	In Bulgaria: RDB- vulnerable VU; BDA-III; International IUCN-LC; BeC-II; HD-II, IV	Presence of the Species	Animals of this species shall be kept safe from injury or killing. No felling shall be undertaken in forests within a radius of at least 50 m around water bodies where the presence of species is registered. Water bodies used by the species shall not be drained up.
14	Danube crested newt Triturus Dobrogicus	In Bulgaria: RDB- vulnerable VU; BDA-III; International IUCN-LC; BeC-II; HD-II, IV	Presence of the Species	Animals of this species shall be kept safe from injury or killing. No felling shall be undertaken in forests within a radius of at least 50 m around water bodies where the presence of species is registered. Water bodies used by the species shall not be drained up

15	Balkan-Anatolian crested newt Triturus ivanbureschi	In Bulgaria: BDA-II; III; International IUCN-LC; BeC-II; HD-II, IV	Presence of the Species	Animals of this species shall be kept safe from injury or killing. No felling shall be undertaken in forests within a radius of at least 50 m around water bodies where the presence of species is registered. Water bodies used by the species shall not be drained up.
16	Macedonian crested newt Triturus macedonicus	In Bulgaria: BDA- III; International IUCN-LC; BeC-II; HD-II, IV	Presence of the Species	Animals of this species shall be kept safe from injury or killing. No felling shall be undertaken in forests within a radius of at least 50 m around water bodies where the presence of species is registered. Water bodies used by the species shall not be drained up.
17	European fire-bellied toad Bombina bombina	In Bulgaria: BDA-II; III; International: IUCN-LC; BeC-II; HD-II, IV	Presence of the species	Animals of this species shall be kept safe from injury or killing.No felling shall be undertaken in forests within a radius of at least 50 m around water bodies where the presence of species is registered. Water bodies used by the species shall not be drained up.
18	Yellow-bellied toad Bombina variegata	In Bulgaria: BDA-II; III; International IUCN-LC; BeC-II; HD-II, IV	Presence of the species	Animals of this species shall be kept safe from injury or killing. No felling shall be undertaken in forests within a radius of at least 50 m around water bodies where the presence of species is registered. Water bodies used by the species shall not be drained up.

19	Phalacrocor ax pygmeus Pygmy cormorant	In Bulgaria: RDB- endangered EN; BDA-II, III; International: IUCN-NT;BeC- II; BoC-II	Presence of the species Nesting site	No felling shall be undertaken in forests within a radius of at least 200 m around water bodies where the presence of species is registered. No operations shall be carried out within a radius of 300 m around nests of the species in the nesting season 01.04 – 01.08. No shooting of specimens shall be allowed.
20	Glossy ibis Plegadis falcinellus	In Bulgaria: RDB-critically endangered CR, BDA-II, III; International: BeC-II; BoC-II	Presence of the species Nesting site	No felling shall be undertaken in forests within a radius of at least 200 m around water bodies where the presence of species is registered. No operations shall be carried out within a radius of 300 m around nests of the species in the nesting season 01.04 – 01.09. No shooting of specimens shall be allowed.
21	All the rest species of herons and great cormorant, colonies of more than 5 nests		Presence of the species Nesting site	No felling shall be undertaken in forests within a radius of at least 200 m around water bodies where the presence of species is registered.No operations shall be carried out within a radius of 300 m around nests of the species in the nesting season 01.04 – 01.09.No shooting of specimens of these species shall be allowed.

22	Spoonbill Platalea leucorodia	In Bulgaria: RDB-critically endangered CR; BDA-II, III (I); International: IUCN-LC; BeC-II, BoC-II; CITES-II,	Presence of the species Nesting site	No felling shall be undertaken in forests within a radius of at least 200 m around water bodies where the presence of species is registered. No operations shall be carried out within a radius of 300 m around nests of the species in the nesting season 01.04 – 01.09. No shooting of specimens shall be allowed
23	Black stork Ciconia nigra	In Bulgaria: vulnerable VU; BDA-II, III; International: IUCN-LC; BeC- II; CITES-II; BoC-II	Presence of the species Nesting site	Large old trees to be retained in the units where presence of the species is registered, for such trees are potential nesting sites.No operations shall be carried out within a radius of 500 m around nests of the species in the nesting season 15.03 – 01.09. Durnig the rest of the year the felling exclusion zone shall be with a radius of 200 m. No intensive fellings shall be undertaken in subunits where nests of the species are registered.
24	Greater spotted eagle Aquila clanga	In Bulgaria: RDB-critically endangered CR; BDA-II; III (I); International: IUCN-VU; BeC-II; CITES- II; БоК-II	Nesting site	Large old trees to be retained in the units where presence of the species is registered, for such trees are potential nesting sites. No operations shall be carried out within a radius of 500 m around nests of the species in the nesting season 01.03 – 01.08. Durnig the rest of the year the felling exclusion zone shall be with a radius of 200 m. No intensive fellings shall be

25	Eastern imperial eagle Aquila heliaca	In Bulgaria: critically endangered CR; BDA–II, III; International: IUCN-VU; BeC-II; CITES-I; BoC-II.	Occupied territory or nesting site	Large old trees shall be retained along the forest edge in the units where presence of the species is registered, for such trees are potential nesting sites. A considerable part of the nests of imperial eagles in the lower areas are on poplars, since these are usually the only tall trees surviving in the surroundings. No operations shall be carried out within a radius of 500 m around nests of the species in the nesting season 01.03 – 01.09. Durnig the rest of the year the felling exclusion zone shall be with a radius of 200 m.
26	Cinereous vulture Aegypius monachus	In Bulgaria: RDB-extinct EX (as nesting sp.); BDA-II, III; International: IUCN-NT; BeC-II; CITES- II, BoC-II	Nesting site	Large old trees to be retained in the units where presence of the species is registered, for such trees are potential nesting sites.No operations shall be carried out within a radius of 500 m around nests of the species in the nesting season 15.02 – 01.08. Durnig the rest of the year the felling exclusion zone shall be with a radius of 200 m. No intensive fellings shall be undertaken in subunits where nests of the species are registered.
27	Woodcock Scolopax rusticola	In Bulgaria: RDB- endangered EN, BDA-IV; International: IUCN-LC; BeC- II	Occupied territory or nesting site	Since this species nests on the ground, it is very vulnerable during brooding. In the nesting season (01.04 – 01.08) no operations shall be undertaken in sections where presence of the species is registered. It is recommended to set up such sections as old growth forests.

28	Hazel grouse Bonasia bonasia	In Bulgaria BDA –II, III	Nesting site	Since this species often nests on the ground, it is very vulnerable during brooding. In the nesting season (01.04 – 01.08) no operations shall be undertaken in sections where presence of the species is registered.
29	Osprey Pandion haliaetus	In Bulgaria: RDB-critically endangered CR; BDA-III; International: IUCN-VU, BeC-II; BoC-I, II; CITES-I	Occupied territory or nesting site	Large old trees shall be retained near water bodies where presence of the species is registered, for such trees are potential nesting sites. No operations shall be carried out within a radius of 500 m around nests of the species in the nesting season 01.03 – 01.08. Durnig the rest of the year the felling exclusion zone shall be with a radius of 200 m.
30	Black kite Milvus migrans	In Bulgaria: RDB-critically endangered CR; BDA-II-III; International:, IUCN-LC; BeC- II, BoC-II	Occupied territory or nesting site	Large old trees shall be retained (especially near water bodies) where presence of the species is registered, for such trees are potential nesting sites. No operations shall be carried out within a radius of 200 m around nests of the species in the nesting season 01.03 – 01.08. Durnig the rest of the year the felling exclusion zone shall be with a radius of 150 m.
31	White tailed eagle Haliaeetus albicilla	In Bulgaria: RDB-vulnerable VU; BDA-II, III; International: IUCN-LC; BeC- II; CITES-I; BoC-II	Occupied territory or nesting site	Large old trees shall be retained near water bodies where presence of the species is registered, for such trees are potential nesting sites. No operations shall be carried out within a radius of 500 m around nests of the species in the nesting season 01.03 – 01.08. Durnig the rest of the year the felling exclusion zone shall be with a radius of 200 m

32	Levant sparrowhawk Accipiter brevipes	In Bulgaria: RDB-vulnerable VU; BDA–II; International: IUCN-LC;; BeC-II, CITES- II;	Occupied territory or nesting site	Trees with nests and large old trees shall be retained in the units where presence of the species is registered, for such trees are potential nesting sites. No operations shall be carried out within a radius of 300 m around nests of the species in the nesting season 01.03 – 01.08. Durnig the rest of the year the felling exclusion zone shall be with a radius of 150 m. No intensive fellings shall be undertaken in subunits where nests of the species are registered.
33	Northern goshawk Accipiter gentilis	In Bulgaria: RDB-endangered, BDA-III; International: BeC-II, CITES- II,	Occupied territory or nesting site	
34	Eurasian sparrowhawk Accipiter nisus	In Bulgaria: RDB-endangered International: BeC-II, CITES- II, BoC-II, BDA-	Occupied territory or nesting site	
35	Booted eagle Hieraaetus pennatus	In Bulgaria: RDB-vulnerable VU; BDA-III; International: IUCN- LC; BeC-III; CITES-II; BoC- II	Occupied territory or nesting site	Trees with nests and large old trees shall be retained in the units where presence of the species is registered, for such trees are potential nesting sites. No operations shall be carried out within a radius of 300 m around nests of the species in the nesting season 01.03 – 01.08. No intensive fellings shall be undertaken in subunits where nests of the species are

36	Lesser spotted eagle Aquila pomarina	In Bulgaria: RDB- vulnerable VU; BDA-III; International: IUCN- LC; BeC-II; BoC-I, II, CITES-II	Occupied territory or nesting site	Trees with nests and large old trees shall be retained along the forest edge and in the units where presence of the species is registered, for such trees are potential nesting sites. No operations shall be carried out within a radius of 300 m around nests of the species in the nesting season 01.03 – 01.08. Durnig the rest of the year the felling exclusion zone shall be with a radius of 150 m. No intensive fellings shall be undertaken in subunits where nests of the species are registered.
37	Golden eagle Aquila chrysaetos	In Bulgaria: RDB- vulnerable VU; BDA-II, III; International: IUCN- LC; BeC-II; CITES- II; BoC-II.	Occupied territory or nesting site	Trees with nests and large old trees shall be retained in the units where presence of the species is registered, for such trees are potential nesting sites. No operations shall be carried out within a radius of 500 m around nests of the species (including nests on rocks) in the nesting season 01.03 –01.09. Durnig the rest of the year the felling exclusion zone shall be with a radius of 300 m. No intensive fellings shall be undertaken in subunits where nests of the species are registered.

38	Short-toed eagle Circaetus gallicus	In Bulgaria: RDB- vulnerable VU; BDA-II; International: IUCN- LC; BeC-II, CITES- II; BoC-II.	Occupied territory or nesting site	Highly branched trees, trees with nests and large old trees shall be retained along the forest edge and in the units where presence of the species is registered, for such trees are potential nesting sites. No operations shall be carried out within a radius of 300 m around nests of the species in the nesting season 01.03 – 01.09. No intensive fellings shall be undertaken in subunits where nests of the species are registered.
39	Saker falcon Falco cherrug	In Bulgaria: RDB- critically endangered CR; BDA-III; International: IUCN – EN; BeC-III; CITES-II; BoC- II.	Occupied territory or nesting site	Old and highly branched trees, as well as trees with nests (including nests of other species, since the saker falcon often uses old nests of other birds) shall be retained along the forest edge and in the units where presence of the species is registered. No operations shall be carried out within a radius of 300 m around nests of the species in the nesting season 15.02 – 01.08. Durnig the rest of the year the felling exclusion zone shall be with a radius of 150 m. No intensive fellings shall be

40	Eurasian hobby Falco subbuteo	In Bulgaria: RDB - vulnerable, BDA-II, III; International: BeC-II, CITES- II, BoC-II.	Nesting site	Trees with nests (including nests of other species, e.g. crows) shall be retained along the forest edge and in the units where presence of the species is registered. No operations shall be carried out within a radius of 300 m around nests of the species in the nesting season 01.04 – 01.08. The species is rare because of the loss of a large part of riparian forest habitats in the country. It is recommended to designate the habitats of this species as old growth forests.
41	European honey buzzard Pernis apivorus	In Bulgaria RDB	Occupied territory or nesting site	Old and highly branched trees, as well as trees with nests (including nests of other species, since the European honey buzzard often uses old nests of other birds, such as crows) shall be retained in the units where presence of the species is registered. No operations shall be carried out within a radius of 200 m around nests of the species in the nesting season 01.03 – 01.08.
42	Long-legged buzzard Buteo rufinus	In Bulgaria: vulnerable, BDA-II, III; International: IUCN-VU; ECS–spec 3, endangered; BD-I; CITES-II; BeC-II;	Occupied territory or nesting site	Old and highly branched trees, as well as trees with nests shall be retained in the units where presence of the species is registered. No operations shall be carried out within a radius of 300 m around nests of the species (including nests on rocks) in the nesting season 01.03 – 01.08.

43	Red-footed falcon Falco vespertinus	In Bulgaria: RDB- critically endangered CR; BDA-III; International: IUCN - NT; CITES-II, BeC- II; BoC-II	Occupied territory or nesting site	Trees with nests (including nests of other species, e.g. crows) shall be retained along the forest edge and in the units where presence of the species is registered. No operations shall be carried out within a radius of 300 m around nests of the species in the nesting season 01.04 – 01.09.
44	Stock dove Columba oenas	In Bulgaria: RDB- endangered EN; BDA-III. International: IUCN- LC;	Occupied territory or nesting site	In the nesting season (15.03 – 15.08) No operations shall be carried out in the units where presence of the species is registered. Old hollow trees, even in younger stands, shall be retained. It is recommended to designate the habitats of this species as old growth forests.
45	Boreal owl Aegolius Funereus	In Bulgaria: RDB- vulnerable VU; BDA-II, III, International: IUCN- LC; CITES-II, BD, BeC-II	Occupied territory or nesting site	No operations shall be carried out in the nestingseasons of Ural owl and Eurasian eagle-owl(01.03. – 01.07.), Boreal owl and Eurasian pygmy

46	Eurasian pygmy owl Glaucidium passerinum	In Bulgaria: RDB- endangered EN; BDA-II, III; International: IUCN- LC; ДП- I, BeC-II, CITES-II	Occupied territory or nesting site	owl (01.04. – 01.07.) in the subunits where presence of the species is registered. No sanitary fellings shall be undertaken in these subunits, except in case of major natural disturbances or proven calamity. When forestry operations are carried out in these and in neighboring subunits, trees with hollows shall be retained as being potential nesting sites. It is recommended to designate the habitats of this species as old growth forests.
47	Ural owl Strix uralensis	In Bulgaria: RDB- endangered EN; BDA-II, III; International: IUCN- LC; BeC-II; CITES- II	Occupied territory or nesting site	
48	Eurasian eagle-owl Bubo Bubo	In Bulgaria: RDB - endangered, BDA-II, III; International: ECS-spec 3, BeC-II, BD-I, CITES-II.	‘ Occupied territory or nesting site	
49	White- backed woodpecker Dendrocopos leucotos	In Bulgaria: RDB- endangered EN; BDA–II, III;	Occupied territory or nesting site	During the nesting season (01.02. – 01.07) no operations shall be carried out in the subunits where presence of the species is registered. No sanitary fellings shall be undertaken nor dry and fallen

50	Eurasian three-toed woodpecker Picoides tridactylus	In Bulgaria: RDB- endangered EN; BDA-II, III; International: IUCN- LC;	Occupied territory or nesting site	debris taken off these subunits, except in case of major natural disturbances or proven calamity. When forestry operations are carried out in these and in neighboring subunits, all standing and fallen dead trees, trees with hollows, as well as trees with visible signs of disease and decay shall mandatorily be retained. Certain parts of the stands shall mandatorily be retained as 'islands of old age' (where no forestry operations take place). It is recommended to designate the habitats of this species as old growth forests.
51	Middle spotted woodpecker Dendrocopo	In Bulgaria: BDA-II International: IUCN- LC	Occupied territory or nesting site	
52	Grey-faced woodpecker Picus canus	In Bulgaria: RDB- endangered BDA-II, III; International: BD-I; BeC-II.	Occupied territory or nesting site	
53	Black woodpecker Dryocopus martius	In Bulgaria: RDB - vulnerable; BDA-II, III; International: BD-I; BeC-II.	Occupied territory or nesting site	
54	Red-breasted flycatcher Ficedula parva	In Bulgaria: RDB- vulnerable VU; BDA-II, III; International: IUCN- LC;	Occupied territory or nesting site	During the nesting season (01.05. – 15.08) no operations shall be carried out in the subunits where presence of the species is registered. The species is migratory and nests in hollows. Trees with hollows shall be retained, even in

55	Semi- collared flycatcher Ficedula semitorquata	In Bulgaria: RDB	Occupied territory or nesting site	younger stands. Such trees near rivers are of essential significance. It is recommended to designate the habitats of this species as old growth forests.
56	Spotted flycatcher Muscicapa striata	In Bulgaria: BDA-III	Occupied territory or nesting site	
57	Common redstart Phoenicurus phoenicurus	In Bulgaria: RDB	Occupied territory or nesting site	During the nesting season (15.05. – 15.08) no operations shall be carried out in the subunits where presence of the species is registered. The species is migratory and nests in hollows. Trees with hollows shall be retained, even in younger stands.
58	Blue ground beetle Carabus intricatus (Linnaeus)	International: IUCN - NT; CORINE	Final Assessment presence of the species	Ban on clearing of riparian forests, uprooting of stumps and modifying of the hydrological balance of rivers. Ban on conversion of deciduous forest stands to coniferous.
59	Stag beetle Lucanus cervus (Linnaeus)	In Bulgaria: BDA - II, III International: HD - II; IUCN European Red List of Saproxylic Beetles - NT; BC - III	Initial Assessment presence of the species	Identification and retention of old growth forests and islands of old age and their conservation and exclusion from forestry operations. Ban on felling of biotope trees; marking and conservation of future ones. Ban on uprooting of stumps. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless extremely necessary, at that

60	European long-armed beetle Propomacrus bimucronatus (Pallas)	In Bulgaria: RDB - endangered (EN) International: IUCN European Red List of Saproxylic Beetles -NT	Final Assessment presence of the species	Identification and retention of old growth forests and islands of old age and their conservation and exclusion from forestry operations. Ban on felling of biotope trees; marking and conservation of future ones. Ban on uprooting of stumps. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).
61	Noble chafer Gnorimus nobilis nobilis (Linnaeus)	International: IUCN European Red List of Saproxylic Beetles - LC	Final Assessment presence of the species	Identification and retention of old growth forests and islands of old age and their conservation and exclusion from forestry operations. Ban on felling of biotope trees; marking and conservation of future ones. Ban on uprooting of stumps. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).
62	Variable chafer Gnorimus variabilis (Linnaeus)	International: IUCN European Red List of Saproxylic Beetles - VU	Final Assessment presence of the species	Identification and retention of old growth forests and islands of old age and their conservation and exclusion from forestry operations. Ban on felling of biotope trees; marking and conservation of future ones. Ban on uprooting of stumps. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless

63	Hermit beetle Osmoderma eremita (Scopoli)	In Bulgaria: RDB –end. (EN); BDA - II, III International: HD - II, IV; IUCN - VU; IUCN European Red List of Saproxylic Beetles - NT; BC - II; CORINE	Final Assessment presence of the species	Identification and retention of old growth forests and islands of old age and their conservation and exclusion from forestry operations. Ban on felling of biotope trees (mostly trees with hollows); marking and conservation of future ones. Ban on uprooting of stumps. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).
64	Red flat bark beetle Cucujus cinnaberinus (Scopoli)	HD - II, IV; IUCN - VU; IUCN European Red List of Saproxylic Beetles - NT; BC - II; CORINE	Final Assessment presence of the species	Identification and retention of old growth forests and islands of old age and their conservation and exclusion from forestry operations. Ban on felling of biotope trees; marking and conservation of future ones. Ban on uprooting of stumps and logging of standing dead trees. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).
65	Triplax spp. Fungus beetles	International: IUCN European Red List of Saproxylic Beetles	Final Assessment presence of the species	Identification and retention of old growth forests and islands of old age and their conservation and exclusion from forestry operations. Ban on felling of biotope trees (mostly covered by tree fungi), marking and conservation of future ones. Ban on uprooting of stumps. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless

66	Long-horned beetle Ergates faber (Linnaeus)	International: IUCN European Red List of Saproxylic Beetles - LC	Final Assessment presence of the species	Identification and retention of old growth forests and islands of old age and their conservation and exclusion from forestry operations. Ban on felling of biotope trees; marking and conservation of future ones. Ban on uprooting of stumps. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).
67	Tile-horn beetle Prionus besicanus Fairmaire	International: IUCN European Red List of Saproxylic Beetles - DD	Initial Assessment presence of the species	Identification and retention of old growth forests and islands of old age and their conservation and exclusion from forestry operations. Ban on felling of biotope trees; marking and conservation of future ones. Ban on uprooting of stumps. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).
68	Tanner beetle Prionus coriarius (Linnaeus)	International: IUCN European Red List of Saproxylic Beetles - LC	Initial Assessment presence of the species	Identification and retention of old growth forests and islands of old age and their conservation and exclusion from forestry operations. Ban on felling of biotope trees; marking and conservation of future ones. Ban on uprooting of stumps. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless

69	Great capricorn beetle Cerambyx cerdo Linnaeus	In Bulgaria: BDA - II, III International: HD - II, IV; IUCN - VU; IUCN European Red List of Saproxylic Beetles - NT; BC - II;CORINE	Initial Assessment presence of the species	Identification and retention of old growth forests and islands of old age and their conservation and exclusion from forestry operations. Ban on felling of biotope trees; marking and conservation of future ones. Ban on uprooting of stumps. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).
70	Rosalia Longicorn Rosalia alpina (Linnaeus)	In Bulgaria: BDA - II, III International: HD - II, IV; IUCN - VU; IUCN European Red List of Saproxylic Beetles - LC; BC - II; CORINE	Initial Assessment presence of the species	Identification and retention of old growth forests and islands of old age and their conservation and exclusion from forestry operations. Ban on felling of biotope trees; marking and conservation of future ones. Ban on uprooting of stumps. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).
71	European lon ghorn beetle Morimus asper funereus (Mulsant)	In Bulgaria: BDA - II International: HD - II; IUCN Red List of Threatened Species - VU; CORINE	Initial Assessment presence of the species	Identification and retention of old growth forests and islands of old age and their conservation and exclusion from forestry operations. Ban on felling of biotope trees; marking and conservation of future ones. Ban on uprooting of stumps. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).

72	Eastern eggar Eriogaster catax (Linnaeus, 1758)	In Bulgaria: BDA – II International: HD – II, IV; BeC II; IUCN Red List of Threatened Species - DD	Initial Assessment presence of the species	Conservation of shrub vegetation and undergrowth. Ban on replacement of deciduous forest stands with coniferous and non-typical species. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).
73	Autumn emperor moth Perisomena caecigena (Kupido, 1825)	In Bulgaria: BDA – II International: CORINE newly proposed	Initial Assessment presence of the species	Ban on replacement of deciduous forest stands with coniferous and non-typical species. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).
74	Ash hawkmoth Dolbina elegans (A. Bang-Haas, 1912)	International: CORINE newly proposed	Initial Assessment presence of the species	Ban on replacement of deciduous plantations with coniferous and non-typical species. Development of fire prevention and fire control plans. Prohibition for drainages and modification of water balance. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).

75	Freyer's purple emperor Apatura metis Freyer, 1829	In Bulgaria: BDA – II; Main Regions for Butterflies in Bulgaria International: CORINE; HD – IV; BeC II; Red Data Book of European Butterflies	Initial Assessment presence of the species	Conservation of riparian forests and willow- groves. Ban on replacement of deciduous forest stands with coniferous and non-typical species. Development of fire prevention and fire control plans. Prohibition for drainages and modification of water balance. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).
76	Scarce fritillary Euphydryas maturna (Linnaeus, 1758)	Butterflies in Bulgaria: BDA – II; Main Regions for Bulgaria; RDB „vulnerable“. International: HD – II, IV; BeC II; Red Data Book of European Butterflies VU/LC; IUCN - DD	Initial Assessment presence of the	Conservation of shrub vegetation and undergrowth. Ban on replacement of deciduous forest stands with coniferous. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).
77	Desertobia ankeraria (Staudinger, 1861)	International: HD – II, IV.	Initial Assessment presence of the species	Ban on replacement of deciduous forest stands with coniferous and non-typical species. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).

78	Carpathian quaker Dioszeghyana schmidtii (Diószeghy, 1935)	In Bulgaria: BDA – II International: HD – II, IV	Initial Assessment presence of the species	Conservation of shrub vegetation and undergrowth. Ban on replacement of deciduous plantations with conifer and non-typical species. Development of fire prevention and fire control plans. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).
79	Jersey tiger Euplagia quadripunctaria (Poda, 1761)	In Bulgaria: BDA – II International: HD – II, priority species	Initial Assessment presence of the species	Conservation of shrub vegetation and undergrowth. Ban on replacement of deciduousforest stands with coniferous and non-typical species. Development of fire prevention and fire control plans. Prohibition for drainages and modification of water balance. Ban on the use of insecticides (unless extremely necessary, at that only biological and species-specific).
80	Blue ground beetle Carabus intricatus (Linnaeus)	International: IUCN - NT; CORINE	Final Assessment presence of the species	Prohibition for felling of riparian forests, uprooting of stumps and modifying of the hydrological balance of rivers. Ban on conversion of deciduous forest stands to coniferous.

Abbreviations:

DB – Red Data Book of Bulgaria, 2011, Category of threatened species: Critically Endangered (CR); Endangered (EN); Vulnerable (VU) – Vulnerable; Near Threatened (NT); Least Concern (LC); Data Deficient (DD); Not Evaluated (NE).

BDA – Biological Diversity Act, with relevant appendices the species is listed in (e.g. II, III);

IUCN – International Union for Conservation of Nature, Category of threatened species: Critically Endangered (CR); Endangered (EN); Vulnerable (VU) – Vulnerable; Near Threatened (NT); Least Concern (LC); Data Deficient (DD); Not Evaluated (NE).

BeC – Bern Convention with relevant appendices the species is listed in (e.g. II, III);

BoC – Bonn Convention on Migratory Species with relevant appendices the species is listed in (e.g. II, III);

CITES – Washington Convention II; HD-II, IV

HD – Habitats Directive with appendices the species is listed in

BD – Birds Directive with appendices the species is listed in

Annex 2 of HCVF Toolkit: Critical concentrations of species

LIST FOR IDENTIFYING CRITICAL CONCENTRATIONS OF SPECIES IN BULGARIA AND PERIMETER OF NON-DISTURBANCE AREAS

Roosting of:

Black vultures sites	more than 5 birds use an area of 500 meters around the roosting
	at least 30 days per year;
Imperial eagles sites	more than 3 birds use an area of 300 meters around the roosting
	at least 30 days per year;
Pygmy cormorant sites	more than 15 birds use an area of 300 meters around the roosting
	at least 30 days per year;
Herons (all species) sites	more than 30 birds use an area of 200 meters around the roosting
	at least 30 days per year;
Storks and birds of prey roosting	more than 100 birds use an area of 300 meters around the
	sites at least 30 days per year.

Occurrence and colonies of bats in forest areas:

All species of bats (crevices	more than 20 specimens, area of 100 meters around the sites
	in rocks, in caves and hollow trees)

Occurrence, wintering sites and breeding ponds for amphibians in forest areas:

Frogs, toads and salamanders more than 10 speciments use the pond for breeding; area of 50 meters around the water body;

Aquatic turtles more than 4 specimens use the pond; area of 100 meters around the water body;

Terrestrial tortoises locality with more than 4 specimens within an area of 50 x 50 meters

Snakes more than 4 specimens or more than 4 sheddings; area of 100 meters from the locality

Existing courting grounds of capercaillie (Tetrao urogallus) with 2-5 male birds; area of 500 m Existing courting grounds with more than 5 courting males; area of 700 m

Areas where more than two bears congregate for feeding (not counting the yearlings and two-year- old bears); area of 500 m

Areas where traces of lynx, otter or marten are often found or the species are directly observed; area of 500 m in diameter

Rutting areas of deers (Cervus elaphus) – all the rutting sites; area – the whole subunit where the rutting site is located.

Areas of invertebrate congregations – areas with old hollow trees, dead standing and fungi covered trees – namely the trees are the area where non-disturbance shall be ensured.

Annex 3 of HCVF Toolkit: HCV 2 forest areas in Bulgaria

Table 4: List of state management units in Bulgaria and the forest compartments within them that are identified as HCV 2

State MU	Forest compartments with HCV 2
Aitos	1-385, 402-423, 425-454, 456-589, 591-595, 598-631, 634-642, 645, 648, 650-651, 654, 677-681, 688-691
Alabak	1-71, 124-557

Aramliets	1-3, 11-21, 38-63, 73-91, 143-154, 161-176, 224-242, 254-257, 259-292, 294-297, 301-310, 312-316, 318, 1145-1147, 1151-1158, 1265-1268
Ardino	1-2, 4, 6-7, 9-10, 23-29, 31-35, 59-169, 174-253, 257-286, 289-332, 349-360, 372-387, 400-407
Asenovgrad	1-374
Batak	1-168
Beglika	1-33, 46-61, 65-77, 94, 96-225
Belitsa	30, 42-47, 51, 54, 56-61, 64-107, 111-121, 127-133, 146-207
Belovo	4, 6-8, 16-20, 45-60, 62-64, 70-138, 141-143, 145-147, 150-156, 158-356, 362-378, 382-426, 441-449
Belogradchik	44-58, 102-108, 124-156, 273, 355-370, 399-412, 421-426, 432-435, 439-450, 464-471, 473-477, 484-489, 515-530
Berkovitsa	1-7, 10-13, 17-25, 68-132, 135-169, 192-193, 198, 200-306, 308-314, 316-326, 349-353, 356-358, 360-364, 368-371
Beslet	1-267, 272-294, 300-494, 509-515, 520-525, 527-530, 597, 721-726, 751
Blagoevgrad	1-11, 15-22, 25-28, 33-34, 37-51, 59-90, 97-146, 149-151, 153-170, 172-192, 202, 209-220, 222, 227-241, 243-250, 255-279, 284-291, 293-312, 317-326, 331, 334
Boliarka	1-144, 146-174, 176-234, 361-409, 503-506, 508-514, 567-574, 591
Borima	1-111, 114-115
Borino	1-11, 13-52, 59, 61-72, 74-101, 103-174, 180-181, 190, 193-200, 202-220, 252-257, 268-270, 405-408, 411-415
Borovo	1-237, 239-244, 252-265, 267-283
Botevgrad	1-34, 53-62, 65-132, 134-141, 144, 147-263, 275-282, 294-296, 417-519, 522-524, 526-530, 534-536, 539-551, 553-561, 601-604, 606-612, 617-623, 625-626, 701-711, 716-719, 802, 804, 815, 819, 822, 825, 827
Breznik	1-2, 4-9, 25-54, 57-61, 102-154, 159, 161-174
Buinovtsi	1-230, 297-301, 306-307, 316-321, 370
Burgas	37-41, 43-94, 96-173, 177-181, 235-262, 313, 316, 355-361, 363-414, 539-543
Biala	22-61, 311-313, 325
Varna	213-256, 265-282, 284-310, 312-313, 315-452, 477-478

Vidin	83, 191-204, 268, 351-357, 362, 381, 390-391, 393-403, 411-412, 414, 417-458, 469
Vitinia	1-134, 202-203, 264-274, 344-416, 628-632, 888-903, 992-1012, 2001-2015
Vitoshko	1-17, 22-164
Voden	64-143
Vratsa	1-66, 70-77, 82-83, 85-88, 90-120, 126-142, 270, 360-361, 365
Vurbitsa	1-239, 241-249
Gabrovo	1-151, 153-168, 172-173, 192-196, 199-201, 256, 266-272, 275-277, 279-331, 338
Govezhda	1-84, 86-173, 180-206, 215-222, 239-241, 257-258
Godech	1-84, 89-167, 175
Gorna Oriahovitsa	1-3, 5-25, 27, 31-43, 48-50, 54-56, 59-65, 155-188, 193-204, 206-218, 220-221, 230-241, 278-282
Gotse Delochev	24-35, 37-46, 49-66, 68-71, 73-205, 208, 217, 219, 222-242, 245-357, 359-360, 366-407, 410-416, 442-480, 485-527, 529-532, 536-553, 565-582, 585-588, 590-599, 601-603, 605-617, 621-635, 639-650, 652-654, 656
Gramatikovo	1-206, 212-223, 233-380
Gurkovo	1-8, 10-13, 19-249, 257-292
Devin	49-64, 68-101, 106-108, 110-112, 146-147, 149-190, 196-273, 311, 318-320, 323-325, 328-331
Dzhebel	1-160, 162-180, 182-222, 458-459
Dikchan	3-6, 9, 13-19, 46-123, 126-243, 245-292, 294, 300, 305-370
Dobrinishte	1-17, 21-25, 27, 32-160, 162-167, 169-199
Dospat	1-253, 257-267, 271-352
Dupnitsa	1-84, 97-106, 113-114, 117-131, 136-143, 150-153, 159-176, 182-183, 187-189, 193-199, 225-265, 268-272, 274-275, 277, 279-280, 282-295, 301-323, 325-330, 332-333, 335-337, 352-354, 363-403, 407-425, 438-439, 444-460, 465-492, 505-506, 510-511, 704, 802, 804
Elena	10, 13-122, 124-200, 202-296, 302-305, 308-315, 319-320, 322-369, 371-475
Eleshnitsa	2-8, 16-254, 260-267, 270-302, 325

Elin Pelin	16-114, 120-124, 126-127, 145-148, 153, 159-194, 204-206, 208-209, 211-253, 258, 298-300, 317, 319-341, 344-382, 384-386, 415-416, 421-484
Elhovo	153-155, 162-173, 176-306, 382-385, 465-466, 470-477, 497
Etropole	1-26, 59-99, 108-181, 184-194, 199, 203, 207-349, 401-407, 409-411, 413-415, 417-418
Zhenda	1-204, 206-208, 210-249, 251-264, 266-267, 278-287, 296-301, 304-306, 510, 558, 578, 581, 639-649, 685-693, 741-747, 783, 1101-1102, 1108, 1113, 1122-1123, 1129, 1140, 1145-1146
Zvezdets	1-271, 274-305
Zemen	1-101, 103-191, 199-219, 230-238, 240, 243-265, 276-286
Zlatograd	1-535
Ivaylovgrad	1-459, 463-694
Izvora	1-53, 131-136, 1029-1039, 1046-1048, 1073, 1100
Iskar	23377
Ihtiman	1-37, 48-50, 59-72, 93-113, 115-142, 155-160, 177-468, 474-506, 509-517, 524-525, 527, 532-570
Kazanlak	100-153, 158-161, 164-166, 168-175, 177-243, 261-329, 339-377, 395, 401-432, 435-498, 510, 513-514, 518-520, 522-523, 900, 920
Karakuz	248-266, 272-281, 284-303, 310-342, 348, 703, 1071-1105, 1138-1166, 1168-1177
Karlovo	1-178, 180-181, 183, 187-189, 287-306, 308, 420-421, 423-434, 485-500, 503-518, 542-558, 560, 566-583, 586-609, 612, 701-707, 719-724, 726-727, 729-735, 740
Karnobat	1-100, 108-119, 124-321, 402-407
Katuntsi	20-29, 34-54, 56-306, 308-309, 311-320, 322-344, 346-361, 363-400, 402-424, 427-519, 521-532
Kirkovo	1-24, 26-29, 32-43, 45-284, 286-456, 459
Klisura	4, 6-8, 12-13, 16-30, 32-84, 86-138, 158
Koprivshtitsa	9001-9030, 9032-9122
Kormisosh	1-22, 25-96, 106-109, 112-239, 245-290, 301-327, 329-400
Kostenets	1-15, 20-34, 36, 43-50, 52, 78-128, 146-299, 301-338, 362-372, 375-376

Kosti	1-14, 16-65, 73-146, 151-159, 203-232
Kotel	1-419, 426-443, 445-446, 450-510, 1001-1181
Kresna	1-39, 47, 51-147, 196, 199, 206, 209-257, 259-270, 274-279, 284-421, 427-454
Krichim	1-150, 153-157
Krumovgrad	1-14, 24-129, 132-223, 227-363, 371-397, 426-766
Kurdzhali	242-243, 245-246, 248, 299, 302-303, 306-308, 321-327, 329-331, 341, 343-353, 357-420, 422-456, 458-472, 475-493, 496-510, 513-557, 559-577, 579-580, 582-614, 616-638, 650-684, 693-740, 1140, 1176, 1186, 1188, 1195, 1220, 1226, 1234-1235, 1240, 1247, 1250
Kyustendil	1-34, 38-47, 51-91, 93-102, 115-151, 164-169, 182-183, 343-350, 616-619, 622-734, 736-761, 765-770, 772-824, 826-830, 835, 837-868
Lesidren	8-12, 16-104, 139-146, 149-150, 152-155, 1023, 1151-1153, 1156-1181, 1183
Lovech	182-210, 343-386, 432, 438-444, 446-452, 454, 478
Mazalat	102-108, 120-122, 124-126, 138-169, 178-179, 191-222, 224-454, 459-477, 501-507, 601, 615-622, 627-629, 632, 634-643, 648-699, 1254
Malko Tarnovo	1-3, 5-12, 20-52, 55-56, 61-109, 112, 115-286, 290-329
Mezdra	1-107, 111-123, 224-264, 313-315, 318-324, 341-349, 351
Mesta	126-220, 225-309, 313, 316-327
Midzhur	85-101, 109-123, 436-439, 451-463, 472-473, 478-483, 489-517
Mihalkovo	1-256, 339-340, 342-346, 348-349
Momchilgrad	223-226, 228-251, 253-271, 273-295, 299-303, 306-314, 316-457, 460-465
Montana	201-214, 226-238, 365-373, 378-383, 385, 387, 389-390, 396
Mugla	1001-1043, 1045-1048, 1064-1086, 1100-1109, 1138-1144
Muglizh	1-12, 15-17, 21, 24-126, 130-136, 138-245, 254, 258-271, 273-347, 349, 351-356
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Nesebar	1-41, 50-96, 100-114, 151-294, 296-475, 477-550, 553, 555, 557-558, 564, 568-571

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Novo Panicharevo	1-204, 207-232, 250-254, 257-268, 283-431
Omurtag	1-5, 27, 29-57, 77-79, 82-83, 85-224, 367-368, 372, 376-384
Osogovo	154-192, 195-208, 210-249, 251-318, 320-342, 352-514, 519-549, 552-561, 567-596
Pazardzhik	1-68, 77-106, 114-152, 157, 159-205, 208-218, 222-233, 261-357, 383, 405-406, 408-413
Palamara	341-421
Pamporovo	23-26, 32-34, 45-47, 49-55, 58-143
Panagiurishte	4-10, 22-44, 64-268, 272-392, 394-407, 431-514, 522-540, 543-552, 559-576, 582-591, 623-661, 670, 700-702, 704-706, 710-711, 713
Petrich	1-148, 169-187, 199-200, 202-208
Petrohan	1-114, 120-211, 217-234
Peshtera	1-78, 80-86, 88-90, 95-104, 106-112, 119-255, 258-265, 271-292, 297-305, 308-314, 335-357, 359-361, 363-367
Pirdop	40-55, 58-117, 119, 121-159, 164-190, 194-209, 211-223, 243-264, 269-329, 331-497, 499-509, 511-755, 770-779, 781-797, 800-805
Plachkovtsi	1-27, 45-92, 95, 97-155, 157-189, 191-194, 198-199, 202-205, 207-248, 259-262, 300-316, 321
Plovdiv	1-6, 148-157, 164-495, 497-604, 612-613
Preslav	1-66, 74, 76, 90-110, 158, 160, 162, 167-248, 251
Provadia	30-46, 48-50, 161-213, 220-222
Parvomai	2-283
Radomir	2-26, 34-44, 46-48, 53-62, 74-82, 182-195, 205-230, 232-248, 254-355
Razgrad	171-173, 225
Razlog	1-16, 26-51, 54-73, 79-86, 96-98, 101-107, 124-133, 138-265, 267-273
Rakitovo	1-183, 193-201, 206-212, 215-261, 267-276, 278-339
Ribaritsa	1-62, 74-93, 129-141, 166-177, 193-204, 206-243, 1126-1175

Rilski manastir	1001-1018, 1045-1188, 1198-1199, 1203-1301, 1303-1304
Rodopi	1-110, 134-145
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Annex 4 of HCVF Toolkit: List of HCV ecosystems

Table 5: List of endangered, threatened with extinction or endemic ecosystems in Bulgaria

No.	EUNIS	Name	Brief Description*
1	**G1.1112**	**Eastern European poplar-willow forests**	Riparian, most often mixed willow-poplar or only willow or poplar forests in lowlands and plains associated with the continental climatic conditions in North Bulgaria.
2	**G1.1216**	**Balkan Range grey alder Galleries**	Mountain galleries dominated by white (grey) alder (Alnus incana), developing on alluvial soils along rivers in the mid-mountain fir-beech vegetation belt at altitudes that are higher compared to the similar forests of common alder and common ash.
3	**G1.2116**	**Dacio-Moesian ash-alder Woods**	Mixed riparian gallery communities with common alder (Alnus glutinosa) as the main edificator. At places edificators and co-edificators are the grey alder (Alnus incana), oriental plane (Platanus orientalis) and common ash (Fraxinus excelsior). Different willow species, most often fragile willow (Salix fragilis) and white willow (S. alba) also participate in the community. This type of gallery forests occurs more often in the low mountain belt and more rarely in the mid-mountain belt.
4	**G1.2232 (0)**	**Helleno-Balkanic ash-oak- alder forests (Longos forests) s**	Floodplain dense forests composed of English oak (Quercus robur), narrow-leafed ash (Fraxinus angustifolia subsp. oxycarpa) and field elm (Ulmus minor) with the presence of climbing plants – Smilax excelsa, Periploca graeca, Clematis vitalba, Hedera helix, Tamus communis, Vitis vinifera subsp. sylvestris.
5	**G1.2232 (1)**	**Helleno-Balkanic ash-oak- alder forests (Humid lowland oak forests)**	Humid lowland forests dominated by English oak (Quercus robur) or pedunculate oak (Quercus pedunculiflora) with the participation of climbing plants though less than compared forests with the dense. Occurring mainly in the Danubian Plain and the region of Ludogorie.

6	**G1.2232 (2)**	**Helleno-Balkanic ash-oak- alder forests (Thracian forests of Quercus pedunculiflora)**	The Thracian forests of Quercus pedunculiflora and Q. robur are the driest subtype of lowland riparian forests. In most cases represent old forests of relatively small area surrounded by agricultural land. Climbing plants also occur, but much less than in dense forests. Occurring in the Tundzha Plain and the Upper Thracian Lowland.
7	**G1.3155**	**Rhodopide Mediterranean poplar galleries**	Riparian forests occurring in plains and lowlands at the of larger rivers (Maritsa, Tundzha, Struma) Mesta, Veleka, etc) and their feeders. Typical plant species: Populus nigra, Populus alba, Salix alba.
8	**G1.381**	**Helleno-Balcanic riparian plane forests**	Forests along rivers and their feeders in the southern part of the country, dominated by oriental plane (Platanus orientalis). Typical plant species: Platanus orientalis, Alnus glutinosa, Salix spp., Castanea sativa, Ostrya carpinifolia, Juglans regia.
9	**G1.413**	**Southern Helleno-Balkanic swamp alder woods**	Floodplain forests of black akder (Alnus glutinosa), occurring in the lower reaches of rivers in the Black Sea – Mediterranean Basin. At places they have a detached, strip-like distribution along rivers, thus obtaining the character of “galleries”. In some sections the narrow- leafed ash (Fraxinus oxycarpa) is sub-edificator.
10	**G1.6921/ G1.6931**	**Southeastern Moesian and Balkan Range acidophilous beech forests**	Forests dominated by beech, developing on poor acidic and humid soils. Typical plant species: Fagus sylvatica, Luzula luzuloides, L. sylvatica, Calamagrostis arundinacea, Pteridium aquilinum,Vaccinium myrtillus, V. vitis-idaea, Poa nemoralis.
11	**G1.6922/**	**Southeastern Moesian and**	Mesophytic forests dominated by beech, developing on

	G1.6923/ **G1.6932/** **G1.6933**	**Balkan Range neutrophile** **beech forests**	neutral or close to neutral soils. They feature rich floristic composition of the herbaceous layer. Typical plant species: Fagus sylvatica, Galium odoratum, Anemone nemorosa, Lamiastrum galeobdolon, Sanicula europea.
12	**G1.661**	**Middle European dry-slope** **limestone beech forests**	Beech forests developing on limestone. Typical plantspecies: Fagus sylvatica, Berberis vulgaris, Ligustrum vulgare, and representatives of the family of Orchidaceae.
13	**G1.69**	**Thermophilous Moesian beech forests**	Pure and mixed deciduous forests with common beech (Fagus sylvatica subsp. sylvatica и Fagus sylvatica subsp. moesiaca) as the main ediphicator. Occurring mostly in the foothills, low mountains and lower parts of the high mountains in the range of 100 to 1000(1300) m alt. at the conditions of moderate- continental and transitional continental climate. Featuring thermophilous nature, emphasized by the presence of species from the neighbouring oak, lime, hornbeam, etc. deciduous forests. Typical plant species: Acer hyrcanum, Corylus colurna, Ostrya carpinifolia, Quercus cerris, Q. frainetto, Q. dalechampii, Sorbus torminalis, Tilia tomentosa, Carpinus betulus.
14	**G1.6E11**	**Eastern Balkan Range oriental beech forests**	Forests dominated by oriental beech (Fagus orientalis) in the Eastern Balkan Mountains. Characteristic of these forests is the lack of undergrowth of evergreen euxinic elements and less euxinial elements in the herbaceous layer. Typical plant species: Primula vulgaris ssp. sibthorpii, Trachystemon orientalis and Scilla bithynica.

15	**G1.6E12**	**Stranja oriental beech Forests**	Forests dominated by oriental beech (Fagus orientalis) in Strandza. Typical plant species: Rhododendron ponticum, Daphne pontica, Ilex colchica, Laurocerasus officinalis, Vaccinium arctostaphylos, Cyclamen coum, Primula vulgaris ssp. sibthorpii, Salvia forskaohlei, Symphytum tauricum, Trachystemon orientalis.
16	**G1.737**	**Eastern sub-Mediterranean white oak woods**	Forests of pubescent oak (Quercus pubescens) – pure or mixed with other thermophilous species.
17	**G1.76A41**	**Stranja [Primula rosea]-[Quercus polycarpa] forests**	Pure or mixed forests of oriental durmast (Quercuspolycarpa) in Strandzha and the Eastern Balkan Mountains.
18	**G1.7A1**	**Euro-Siberian steppe [Quercus] woods**	Forests dominated by Turkey oak (Quercus cerris) or pedunculate oak (Quercus pedunculiflora) on loess in the Danubian Plain, Ludogorie, and the Dobrudzha Plateau.
19	**G1.7C1**	**[Ostrya carpinifolia] woods**	Communities dominated by or with considerable participation of hop-hornbeam (Ostrya carpinifolia)
20	**G1.7C34**	**Moesian thermophilous maple woods**	Forests with participation of or dominated by Montpellier Maple (Acer monspessulanum). Typical plant species: Acer monspessulanum, Fraxinus ornus, Quercus pubescens, Syringa vulgaris, Prunus mahaleb
21	**G1.7C41**	**Silver lime woods**	Forests dominated by silver lime (Tilia tomentosa)
22	**G1.7D1**	**Helleno-Balkanic chestnut**	Pure and mixed natural stands and old plantations dominated by or with considerable participation
23	**G1.7(E)**	**Cercis siliquastrum forests**	Forests and thickets with participation of Judas tree (Cercis silisquastrum).
24	**G1.7642**	**Rila Quercus protoroburoides forests**	Communities dominated by Rila oak (Quercusprotoroburoides).

25	**G1.9135**	**Illyro-Moesian montane birch woods**	Natural pure and mixed forests of Betula pendula with the participation of Fagus sylvatica, Picea abies, Pinus sylvestris, Abies alba, Pinus peuce and Populus tremula.
26	**G1.A4**	**Ravine and slope woodland**	Mixed deciduous forests on steep and precipitous sites.
27	**G1.A462 21**	**Balkan Range horse-chestnut ravine forests**	Forests dominated by horse chestnut (Aesculus hippocastanum)
28	**G1.A711**	**Western Euxinian mixed Forests**	Mixed deciduous forests with the participation of tanniniferous oak (Quercus hartwissiana)
29	**G3.16**	**Moesian [Abies alba] forests**	Monodominant or mixed forests of silver fir (Abiesalba).
30	**G3.171**	**King Boris´s fir forests**	Mixed forests of common beech (Fagus sylvatica) and Bulgarian fir (Abies borisii-regis).
31	**G3.1E1**	**Southeastern Moesian [Picea abies] forests**	Monodominant and dominated by spruce forests in Vitosha, Rila, Pirin and Rhodope Mountains.
32	**G3.E32**	**Moesian Scots pine mire Woods**	Forests of Pinus silvestris and Picea abies distributed on mires in the Western Rhodopes, Vitosha and Rila.
33	**G3.1E4**	**Balkan Range [Picea abies] Forests**	Monodominant and dominated by spruce forests in the Western and Central Balkan Mountains.
34	**G3.4C**	**Southeastern European [Pinus sylvestris] forests (on limestone)**	Scots pine forests developing on limestone with fragmentary distribution in Pirin, Central Rhodopes and Slavyanka in the range of 1100–1400 m alt. Most often being monoedificator or mixed with participation of black pine.
35	**G3.561(1)**	**Helleno-Balkanic Pallas' pine forests**	Forests of black pine with relict nature. Typical plant species: black pine (Pinus nigra ssp. pallasiana).
36	**G3.561(2)**	**Mixed Pinus nigra – Picea abies fortests**	Natural mixed forests of Pinus nigra and Picea abies.

37	**G3.616**	**Rhodopide white-barked pine forests**	Natural xero-mesophytic monodominant and mixedforests of Pinus heldreichii with participation of Pinus mugo, Pinus nigra, Pinus sylvestris, Pinus peuce, Picea abies and Abies alba.
38	**G3.62**	**[Pinus peuce] woods**	Natural monodominant and mixed forests of Pinus peuce with participation of Pinus mugo, Pinus sylvestris, Pinus heldreichii, Picea abies and Abies alba.
39	**G3.932**	**Peri-Rhodopide Grecian juniper woods**	Sparse forests dominated by Grecian juniper (Juniperusexcelsa).
40	**G4.6**	**Mixed [Abies] - [Picea] - [Fagus] woodland**	Mixed conifer-deciduous forests of common beech (Fagus sylvatica) and silver fir (Abies alba) and/or Norway spruce (Picea abies).
41	**G4.8(1)**	**Mixed [Pinus peuce] [Fagus] forests**	Natural mixed conifer-deciduous forests of Pinus peuce, Fagus sylvatica, Picea abies and Pinus sylvestris
42	**G4.8(2)**	**Mixed [Pinus heldreichii] [Fagus]forests**	Natural mixed conifer-deciduous forests of Pinus heldreichii and Fagus sylvatica.
43	**G4.8(3)**	**Mixed non-riverine deciduous and coniferous woodland**	Forests with the participation of black pine (Pinus nigra) and hop-hornbeam (Ostrya carpinifolia)

* For more information refer to: http://eunis.eea.europa.eu/habitats-code-browser.jsp; Biserkov, V., Gussev, Ch., Popov, V., Hibaum, G., Roussakova, V., Pandurski, I., Uzunov, Y., Dimitrov, M., Tzonev, R., Tzoneva, S. (ed.) 2011. Red Data Book of the Republic of Bulgaria, Volume 3. Natural Habitats". IBER – BAS& MoEW, Sofia

Annex 4A of HCVF Toolkit: Forest management activities for HCV ecosystems

MANAGEMENT CHARACTERISTICS AND RECOMMENDED FOREST MANAGEMENT ACTIVITIES FOR ECOSYSTEMS IN ANNEX 4 (ENDANGERED, THREATENED WITH EXTINCTION OR ENDEMIC ECOSYSTEMS IN BULGARIA)

Some of the forest habitats in Annex 4 have similar characteristics, which make possible to unify them in groups specified below with their particularities and guidance for management.

Natural riparian forests dominated by willows, poplars and alders.

These are communities with rich biodiversity, which often sustain unique flora and fauna species. They are with critical importance for protection and erosion control, and also aesthetic value. They are under negative anthropogenic impact during last decades. In order to save these forests, it is recommended to stop any management activities in their land. If decision for management of these forests is taken than the forestry management activities have to be directed to each tree and biogroup. Clear cuttings and gradual regeneration cuttings shall not proceed. The trees and biogroups along the rivers have not to be logging object. Protection of key biodiversity elements have to be provided – deadwood, trees with hollows and etc. Inventory in regions occupied by these kinds of habitats has to be made and management plans have to be developed. Recovering, where possible, of the normal water supply regimes, which will prevent the spread of exotic species (amorphata, American ashl-tree). The destruction of riparian willow belts along the rivers have to be stopped and have to search ways for keep balance between areas occupied with intensive poplar plantations and natural riparian ecosystems, dominated by willows, poplars and alders and etc. Support natural regeneration of native species (willows, poplars and alders). Actions for improvement of forest security and prevention of logging in alder trees have to be undertaken. Make restrictions for reduction of areas occupied by this type of habitats for infrastructure or other project purpose, increase of arable land and etc.

Natural beech forest

Diversity of forestry systems has to be implemented in order to provide biological diversity in this basic forest group. The share of selected cuttings (group selected cutting) and cuttings with long recovery period have to be increased. They will help in development of irregular spatial structure, which will provide richer habitat diversity. Likewise they will help in protection of dendrology diversity. Cultivation activities have to be made on time in order to improve sustainability of young forest stands. Different growing phases of beech communities have to be presented during the planning process and forestry activities. Special attention has to be taken to protection of the stands, in “old growth forests” stage. Protection of key biodiversity elements has to be provided – islands of old age, trees with hollows, leisure zones and etc. Priority in offspring beech forests management has to be their transformation into seed forests. Protection functions of beech stands with low timber effect have to be taken into account. Management activities implemented in endemic communities of Fagus orientalis in Strandga have to be restricted. For recovery activities through afforestation only native origins and species have to be used. Activities for improvement of forest protection have to be taken. Adoption of a ban on the expansion of territories for the purpose of infrastructure and other projects at the expense of beech forests.

Natural forests dominated or sub-dominated by different oak species

Clear cuttings are not permitted in this communities and pasture of domestic cattle have to be restricted in these areas. Loggings with long recovery period have to be increased in order to develop irregular spatial structure and varied species composition. Cultivation activities have to be made on time in order to improve sustainability of young forest stands. Different growing phases of oak communities have to be presented during the planning process and forestry activities. Priority is given to protect plain oak forests, which are natural islands of biodiversity in plains (Chirpanska and Aitovska koriaand etc.). Protection of key

biodiversity elements has to be provided – islands of old age, trees with hollows, leisure zones and etc. Priority in offspring oak forests management has to be their transformation into seed forests. Discontinue the reconstruction of low productive habitats and give priority to natural vegetation and succession processes. These types of forests are vulnerable to anthropogenic influence and therefore they don't have to be used for timber production. Priority has to be given to natural recovery and during afforestation only native species and origins have to be used. It is not recommended to reduce the territories for the purpose of infrastructural and other projects, increase of agricultural lands, etc.

Natural pure and mixed natural stands of Betula pendula with the participation of beech

This community consists of two tree species with contrast ecological characteristics, which point the question about its sustainability in time. Its current state is due to anthropological influence, express in cuttings, grazing and burning down the native species. Its long-term existence is possible in the diverse micro–habitats territory with different characteristics. For an example slopes with combination of comparatively humid areas and deeper soils (gullies) and parts with humidity deficit and infertile, rocky soil.

The long-term dynamics of species composition will depend on the combination of habitat micro- conditions. The participation of birch, which is pioneer species, will decrease and will be saved only in places where it has competitive priority – very rocky soils and humidity deficit.

Beside its crucial anti erosion importance, the birch can be taken as a "source" for birch spreading into adjacent non-forested areas. Its aesthetic value also has to be taken into account.

The forestry activities have to keep the mixed stands but not to interrupt their natural dynamic, i.e. not to keep the birch in places where it has no competitive priority.

Tilia tomentosa natural forests

In stands in good condition, the term of fellings has to be extended and appropriate cultivation activities have to be implemented. Strict control has to be implied during the gathering of blossoms for economic purposes including prevention of the cutting branches and whole trees for this purpose.

Forests with Abies alba and Abies borisii-regis

Fir-tree is appropriate species for implementation of selection management and fellings with long recovery period. The implementation of gradual felling has to be restricted with exception where the purpose is habitat richness. Cultivation activities have to be made on time in order to improve sustainability of young stands. Different growing phases of fir-tree communities have to be presented during the planning process and forestry activities Special attention has to be taken to protection of the stands at the "old growth forests" stage. Protection of key biodiversity elements has to be provided – islands of old age, trees with hollows, leisure zones and etc.

The forests with Abies borisii-regis have to be included as part of protected areas, because of their endemic character. Development of management plans for protected areas and implementation of forestry activities complying with biology and ecology of the species.

Coniferous forests on the upper timberline with conversion to pine-scrub communities

These forests have only protective importance and therefore implementation of forestry activities is not recommended. When in some cases forestry activities are needed, they have to imitate natural dynamics and recovery processes for this kind of species.

Monodominates and forests with domination of spruce in Vitosha, Rila, Pirin and Rodopi

Spruce forests are appropriate species for implementation of selection management and cuttings with long recovery period. Implementation of gradual cutting has to be restricted with exception when the purpose is achievement of habitat richness. Cultivation activities have to be made on time in order to improve sustainability of young forest stands. Different growing phases of spruce communities have to be presented during the planning process and forestry activities Special attention has to be taken to protection of the stands at the “old growth forests” stage. Protection of key biodiversity elements has to be provided – islands of old age, trees with hollows, leisure zones and etc. Activities for recovery of habitats in areas not occupied by forests or in regions where no afforestation is carried out but are suitable for forests have to be undertaken.

Pinus nigra natural forests

Different forestry systems have to be applied, not only gradual cutting, like the usual practice. The usage of rocky Pinus nigra forests has to be prohibited.

Different growing phases of Pinus nigra communities have to be presented during the planning process and forestry activities. Anti-fire measures have to be developed. Protection of key biodiversity elements has to be provided – islands of old age, trees with hollows, leisure zones and etc. Development of protected areas management plans, which include forests with natural Pinus nigra communities.

Mixed spruce and Pinus nigra forests

Implementation of forestry activities has to be done in order to protect the mixed pattern of the stands.

Group-selected and irregular gradual cutting with bigger sizes are recommended, which will provide recovering of Pinus nigra. Cutting rotation period in these forests has to be increased.

Pinus heldreichii forests

Final phases of regeneration fellings are prohibited.

The reduction of the areas for infrastructure or other project purposes is prohibited.

Pinus peuce forests

Different forestry systems have to be implemented in forestry management of Pinus peuce forests in order to provide diverse habitats. Cultivation activities have to be made on time in order to improve sustainability of young forest stands. Different growing phases of Pinus peuce communities have to be presented during the planning process and forestry activities. Protection of key biodiversity elements has to be provided – islands of old age, trees with hollows, leisure zones and etc. Habitats management plan included in protected areas has to be developed. Activities for recovery of habitats in areas not occupied by forests or in regions where no afforestation is carried out but are suitable for forests have to be undertaken.

Anti-fire measures have to be developed. The reduction of areas for infrastructure or other project purposes is prohibited.

Coniferous forests on peat bogs

Spruce and Pinus silvestris natural forests situated in high mountains, over peat bogs. They have restricted areas (around 200ha) in Vitosha and Rodopes mountains. Inventory of the regions occupied by these kinds of habitats has to be made. Any kind of loggings has to be prohibited. Increasing the share of habitat areas included in protected areas. Habitat management plan has to be developed.

Mixed deciduous-coniferous forests

Implementation of forestry activities has to be done in order to protect mixed pattern of the forest stands. Cultivation activities have to be made on time in order to improve sustainability of young stands. Different growing phases of the forest stands and different tree species have to be presented during the planning process and forestry activities. Special attention has to be taken for the protection of the stands at the “old growth forests” stage. Protection of key biodiversity elements has to be provided – islands of old age, trees with hollows, leisure zones and etc.

Old growth forests

Old-growth forests (OGF), with their specific structure and functionality, are the habitat of a complex of species from different ecological and taxonomic groups. Due to the limited knowledge about them, it is still not possible to determine how many of the studied species are associated only with these forests, but it can definitely be said that many species find optimal conditions for existence in them. Moreover, when comparing GFS and younger forests, significant differences in species composition and abundance were reported, which is indicative of the uniqueness of these ecosystems.

At least 5% from the territory of the MU have to be separated to provide old growth forests. Particularly suitable for this purpose are 100 years old natural forests, which were not under anthropogenic influence. In this forest group can be included plantations when necessary. It is recommended that the OGF have relatively even distribution over the territory, as the area of one old growth forests complex is no less than 40 ha. The connectivity of these complexes with OGF corridors has to be provided.

In order to achieve the characteristics of old-growth forests, certain stands must be left to their natural dynamics. Forestry intervention and wood extraction are not allowed in them, except in cases of major natural disturbances /windstorms and calamities on areas occupying more than 30% of the OGF/. Another exception to this rule are artificial forest stands. They require silvicultural interventions to support their sustainability and the process of differentiation of their structure.

Approximately 160 to 230 years are needed to form a forest with the characteristics of an old-growth forest. The transformation from mature forests to old-growth forests is gradual and its duration depends very much on the tree composition (species reach their maximum physiological age in different times), habitat conditions (the period is shorter in good habitats than in poor ones) and the initial structure of the stands (with a homogeneous structure it is slower than with a heterogeneous one).

Annex 5 of HCVF Toolkit: Preliminary assessment for HCV 5

METHODOLOGY FOR IDENTIFICATION OF HVF 5.

PRELIMINARY ASSESSMENT

This HCV differ from biological and environmental values in terms of participation of local communities in the forest management. The preliminary assessment identifies communities that are potentially dependent on forest resources.

In Bulgaria, the following resources characterize HCV 5 according to the level of community dependency on them, existence of easily accessible replacements and interaction with other HCVs:

- Firewood and wood for other daily needs
- Pasture
- Fodder – hay and leaf mass
- Mushrooms
- Other non-timber resources – medicinal plants, forest fruits, snails, products from hunting (trade non-timber forest products, like caught animals, resins, fruits, etc.)
- Water supply (drinking and other daily needs water (see HCV 4.1).

Some of these uses might contravene local laws (for example when people extract timber or use other resources without an official/legal permission) or contradict other HCVs (for example when people hunt or use in another way protected species). During the identification/ preliminary assess-ment, the assessor must identify by the inclusion method all the potential usages of forest resources, without prejudice of the legality and sustainability of these uses of the forest by the people.

In Bulgaria, HCVs can be all LFFF, which are parts of settlements or settlement formations in undeveloped rural areas (defined under Regulation 105/02.06.1999 of MRDPW), the set-tlements have no electricity neither developed road infrastructure (difficult of access, no

asphalt roads). The LFFF are up to 5 km away from the settlement borders, and are identified by verification of critical importance through inquiry with local people.

The forest managers/users have to identify whether the community for whose existence the forest is of crucial importance, is falling into the undeveloped areas list – Annex 5A.

Managers have to verify the list periodically for updates.

Sources of information/data:

- the divisions of the Ministry of Agriculture and Food and the Ministry of Regional Development and Public Works;

- local and regional agricultural advisory services;

- the agriculture and forestry directorates of the regional governments.

Annex 5A of HCVF Toolkit: Undeveloped rural areas in Bulgaria

LIST WITH UNDEVELOPED RURAL AREAS IN BULGARIA, DEFINED UNDER REGULATION 105/02.06.1999 OF MRDPW

1. Straldja (district with administrative center Yambol)

2. Kotel (district with administrative center Sliven)

3. Dolni chiflik, Dalgopol (district with administrative center Varna)

4. Suvorovo (district with administrative center Varna)

5. Varbitza, Smiadovo (district with administrative center Shumen)

6. Antonovo, Omurtag (district with administrative center Targovishte)

7. Tervel (district with administrative center Dobritch), Alfatar and Kainardga (district with administrative center Silistra)

8. Kaolinovo, Venetz, Nokola Kozlevo, Hitrino (district with administrative center Shumen)

9. Tutrakan, Glavinitza, Sitovo (district with administrative center Silistra), Zavet, Kubrat (district with administrative center Razgrad) and Slivo poljie (district with administrative center Rousse)

10. Loznitza, Samuil (district with administrative center Razgrad)

11. Dve mogili, Borovo, Tzenovo (district with administrative center Rousse), Opaka (district with administrative center Targovishte) and Tzar Kaloian (district with administrative center Razgrad)

12. Zlataritza, Stragitza (district with administrative center Veliko Tarnovo)

13. Guliantzi (district with administrative center Pleven)

14. Ugarchin (district with administrative center Lovech)

15. Knega, Oriahovo (district with administrative center Vratza) and Iskar (district with administrative center Pleven)

16. Biala Slatina, Mizia, Hairedin, Borovan, Krivodol (district with administrative center Vratza)

17. Lom, Boichinovtzi, Brusartzi, Valchedram, Medkovetz, Iakimovo (district with administrative center Montana)

18. Varshetz (district with administrative center Montana)

19. Belogradchik, Boinitza, Bregovo, Gramada, Dimovo, Kula, Novo selo, Rougintzi (district with administrative center Vidin)

20. Tran (district with administrative center Pernik) and Trekliano (district with administrative center

Kiustendil)

21. Nevestino (district with administrative center Kiustendil)

22. Stroumiani (district with administrative center Blagoevgrad)

23. Belitza, Iakorouda (district with administrative center Blagoevgrad)

24. Garmen (district with administrative center Blagoevgrad)

25. Devin, Borino (district with administrative center Smolian)

26. Velingrad, Rakitovo (district with administrative center Pazardgik)

27. Strelcha (district with administrative center Pazardgik)

28. Rakovski, Sadovo (district with administrative center Plovdiv) and Bratia Daskalovi

(district with administrative center Stara Zagora)

29. Pavel Bania (district with administrative center Stara Zagora)

30. Mineralni bani (district with administrative center Haskovo)

31. Ardino (district with administrative center Kardgali)

32. Kirkovo (district with administrative center Kardgali)

33. Stambolovo (district with administrative center Haskovo)

34. Topolovgrad (district with administrative center Haskovo

Annex 6 of HCVF Toolkit: Full assessment for HCV 5

METHODOLOGY FOR IDENTIFICATION OF HCV5. FULL ASSESSMENT. MANAGEMENT AND MONITORING OF HCV5 FORESTS.

The full assessment of this HCV always requires consultation. After conclusion that the community uses the forest for some basic needs, the Full Assessment identify whether a forest is of crucial importance to them. Therefore, different methods are used depending on the socio-economic context and the specific needs. Sometimes the forest manager will need guidance from social scientists that specialize in the region. However, consultations with the community itself are always helpful, as described in the Appendix.

STEP 1: IDENTIFICATION OF ISOLATION AND DEVELOPMENT OF INFRASTRUCTURE OF LOCAL COMMUNITY

If local community included in the list of Undeveloped Rural Areas – Annex 5A, then have to verify whether the settlement has electricity, the level of road infrastructure development,

and the level of isolation. If the settlement meets the requirements of HCV 5, then goes on to next step.

STEP 2: IDENTIFYING SUB-GROUPS IN EACH VILLAGE BASED ON THEIR LIVELIHOOD PATTERN

Villages in Bulgaria usually consist of sub-groups with different ethnic origins and livelihood patterns. Before the identification of each value importance starts, the interviewers have to divide villages in sub-groups according to their livelihood pattern, like in the following table. This information can usually be obtained from the village leaders or other key informants.

Table 6: Identification of sub-groups within one village community

№	Ethnic group/origin	Main sources of livelihood	Other key characteristics (i.e. date of	Approximate number of households	% of village Population

Each group, which represents at least 15% of the village population, should be considered as a significant sub-group and should be interviewed separately – either through individual interviews or through group interviews in which only one sub-group is represented.

STEP 3: IDENTIFY HOW EACH SUB-GROUP MEETS ITS BASIC NEEDS

The following table is proposed for each sub-group, as a guide for individual or group interviews. The purpose of this table is to identify how different types of resources, including forest resources as well as alternative resources such as agriculture, fishing, crafts, market, or government assistance, forest company development programmes or NGOs, meet each of the sub-group basic needs.

The table was tested in several communities in other countries, with different level of forest de-pendency, and it appeared to be easily understood, enabling a good and active people participation and a good group interaction. A small group of participants (5 to 15) needs about one hour to fill the table. However the people who make the interviews can change the model according to their knowledge, experience and local conditions.

The table can be used for individual interviews but this can make the procedure take longer time. It is more efficient in terms of time to use the table with small groups of people on a group consultation meeting. The perfect number of people is from 5 to 15. This can be used for different small groups representing different sub-communities depending on ethnic group, livelihood pattern, age and gender.

Regarding the gender, it is important to provide women participation, since they usually have a different share in resource usage. Women are usually involved more in the gathering of particular forest products, such as medicinal plants and forest fruits, and probably have a different opinion about their importance. In other countries mixed gender group discussions tend to be dominated by men. In order to get an appropriate representation of women’s point of view, separate group discussions with women can be organized.

Table 7: Satisfaction of Basic Needs

Village:……. Sub-Group 2 (based on Table 6):…….							
Needs	Sources						
	Forest or land from the forest fund		Agriculture (cultivation), stock- breeding	Purchase/ Trade	Aid	Others (e.g. fishing – amateur and sports fishing should be	Explanations, Notes
Wood:							
For other everyday needs							
For materials (construction, farming, tools)							
Food for animal:							
- Fodder (hay, leaf mass)							
Non-timber products: - Mushrooms							
- Medicinal plants							
- Fruits							
- Resins							
- Snails, other uses of animals, hunting							

Drinking and other daily							
Cash income							
Others							

Instructions for filling the table

The table can be reproduced on a large piece of paper and put on the wall of the house or other building where the consultation is taking place. The facilitator then explains the purpose of the consultation and proceeds to ask villagers where from they derive each of the main resources in the table below, and the respective importance of each resource.

For example, the facilitator might ask the community about their main fuel, e.g. firewood; the main source of this fuel and how they obtain it. Villagers will usually list the most important source first, and then other sources. For each source the facilitator asks the villagers whether they derive all their wood from this source (ranking: 4); most of their needs are satisfied from it (ranking: 3), a significant part of their needs (2), only a tiny, marginal part of their needs (ranking: 1), or none at all (0).

Then in each cell, the facilitator indicates ranking from 1 to 4 as explained below, and lists the corresponding resources, e.g. “dry fallen mass”, “blueberries”, “struts”, “stakes for agriculture”, etc. The importance of each source for each need is determined with the following levels:

4 – Essential = 100% of a given need is satisfied by one source (for example, if all the water used by the community comes from the forest’s rivers, put “4 (all)” in the “forest” column in the “water” row).

3 – Critical = more than 50% of a given need is satisfied by one source.

2 – Important = between 15% and 50%.

1 - Not important = less than 15%. 0 – non-existent = 0%.

Not all the cells have to be filled, but at least all the ones with a value above 2 should be filled. Likewise, all cells in the column “forest” should be filled to make sure that the importance of the forest is carefully evaluated. Depending on the circumstances, the column “forest” can be split in two or not. If the interviewed group lives in the middle of the Management Unit under evaluation, then everything they derive from the forest is likely to be from the MU (in case it is large enough). If the community is near the border of the MU or often moves beyond its borders, then it might be necessary to clarify what percentage of their resources they draw from the MU and what is the percentage derived from another forest.

It is important to realize that it is not necessary to ask communities to fix these percentages. If they are ready to give such percentages, they can be used to classify the importance of each resource in the categories from 1 to 4 above. However, it should be remembered that communities are not used to keeping quantified records of their needs and resource uses, so percentages given during inter-views can be very misleading. Rather than trying to obtain figures, which would require months of data collecting, it is recommended to base the identification of fundamental resources on the qualitative perception of the people, which will be a more adequate indicator.

The levels from 1 to 4 can easily be obtained during individual or group discussions. In ordinary language, farmers to qualify the importance of a source satisfying a particular need could use the following expressions:

For example, the following questions can be asked for qualitative identification of each level:

“Do you get all your fruits from the forest or there are other sources?” . If the answer is “all” then the level is 4 for the forest in the line “fruits”.

If there are other sources, for example a garden, then the following question can be asked:

“Do you get more fruits from the forest or from the garden?”. If the answer is “more from the forest”, then the level is 3.

If the answer is “more from the garden” then the following question can be asked:

“Do you get a significant portion of fruits from the forest or just very little, seldom, and not in an important way?” If the answer is “significant, rather important”, then the answer is 2, if the answer is “marginal, occasional, or not important”, then the answer is 1.

Some resources may become critical only at certain times of the year, or during crop failures, as a replacement. For example, mushrooms collected from the forest could not be a main resource in times of drought. If the community qualifies a certain forest resource as marginal, always check that this is the case all year long and all the time, for example by asking “are there certain times when it becomes more important?” If the answer is yes, then the importance of the resource should be moved to 2 (significant) and if there is no replacement during that period, it is an HCV.

If no fruits at all are derived from the forest, then obviously the level is 0.

For each need for which the forest is considered as “not important” or “nonexistent” (value 0 or 1) in satisfying it, the forest is not fundamental and will not be qualified as a HCV.

STEP 4. IDENTIFYING FUNDAMENTAL FOREST FUNCTIONS

For each need for which the forest has been ranked between 2 and 4 as a source (important, critical or essential), the consultation has to be more thorough. The table below should be filled, which will establish the readiness of alternatives and whether they are within the reach of the people.

Changes are important to consider. If a given resource from the forest is being less and less used and more and more replaced by alternative uses, this may disqualify a resource as fundamental. This is especially true when people are investing in alternative sources, for example if they are developing cash crop plantations that will make them less dependent on NTFP for cash needs. This criterion is especially important for ‘ambiguous’ cases, when it is difficult to decide whether the resource is fundamental or not.

Questions in the table below will help to find out whether the resource is fundamental or not. It indicates whether the community has access to satisfying replacements of the forest resources or not. Each resource that has no accessible and satisfying replacement is a HCV.

Again this table is proposed as a guide; local groups or researchers may develop their own models to suit their needs.

Table 8: Identifying fundamental forest resources

Village: XXX……	Sub-Group: 2 (based on Table 6)
Forest resource (e.g. firewood, wood for construction, hay), based on Table 7	Ranking of the forest's importance in meeting this need (2 to 4), based on Table 7
If the need cannot be met by the corresponding forest resource, are there available alternatives?	Make list of the alternatives. If there are none, the resource may be a HCV. If there are some, continue with the rest of the table.
Are these alternatives available: All year long every year, In sufficient quantities to replace the forest resources, And in an accessible location by available means of transportation.	If the answer is "no" to one of these questions: there may be a HCV. If the answer is yes to all questions: continue below.
If yes, can they be obtained for free or would there be a cost involved (for example, cash needed to buy and transport a replacement, labour and	If the replacement is available for free (for example, free medicines at the village dispensary), this is not a HCV. If there is a cost, continue below.
If there is a cost, is it within the reach of all the people (for example do they have enough cash to buy it, or do they have	If no: Fundamental/HCV; If yes: not fundamental.
enough labour and land to start a new agricultural production as replacement?)	
Is there a trend of change in people's dependency on this.resource? For example, are they less and less using the rivers for water, or is the collection of NTFPs declining? If there is a trend of change, are people investing in substitutes (e.g. cash crops, animal husbandry, etc.)? Are they actively trying to protect the existing resources?	In case of hesitation about the importance of a resource, the obvious declining trends in the use of the forest, affecting the community as a whole, may disqualify the forest from being fundamental, especially if people are actively investing in new, alternative sources such as agriculture. On the contrary, if the community is actively protecting the forest resources, then it is a HCVF.

IMPORTANT: if the forest is fundamental for meeting even only one of the basic needs mentioned in Table 7, this is sufficient to qualify the corresponding resource as a HCV.

STEP 5. IDENTIFYING SUSTAINABLE FOREST USES COMPATIBLE WITH OTHER HCVS

As mentioned above, HCVs do not cover excessive uses of forest resources beyond sustainable levels, or uses that are not compatible with the maintenance of other HCVs. Such uses of forests by communities, once identified, have to comply with the other principles of HCVF management.

However, it is important to remember that the focus here is the lifestyle of local communities. If the local communities themselves make a forest use unsustainable, then this use is not a HCV – unless communities have firmly decided to reverse this trend. If the communities use the resource in a sustainable way, but external parties endanger the resource, then the use of the forest by the local community is still a HCV that needs to be protected from external threats.

Table 9: Identifying sustainable forest uses compatible with other HCV

Village: XXX…….	**Sub-Group: 2 (based on table 6)**
Forest resource (for example firewood, wood for construction, drinking water, etc.), based on table	**Importance of the forest for meeting the need (from 2 to 4), based on Table 7**
For how long has the community used the resource?	Recent uses of the forest compelled by market development and not bound by traditional regulations may not be sustainable. Uses that have existed for at least a generation might be sustainable, unless there have been changes in availability and extraction levels (see next questions).
Are these resources used in a sustainable manner, i.e. do the villagers think that they can continue to sustain present use/harvest level indefinitely?	If the answer is yes, and unless there are indications of the contrary from other questions, then the resource use is probably sustainable. Always use the questions below to confirm.
Has there been a declining trend in the availability of this resource during the last 5/10 years? (for example, mushrooms getting rarer, timber sources farther from the village…)?	If the resource availability is significantly declining because of the communities' own activities, and/or if they forecast its exhaustion, this may not be a HCV, unless communities express their will to change the trend.
Does the use of the resource by the community threaten other HCVs (endangered species for example)?	Besides consultation with communities, this will require discussions with an ecologist.

Does the community hope, plan or want to reverse this trend? Are there some rules that are followed by the community to regulate the use of this resource?	If the resource is declining or threatening other HCVs, but the communities are ready to do something to counter this trend, then this may still qualify as a HCV.

These questions should not always be asked straightforward, the best is to engage people in an informal discussion. The first indicator of resource exhaustion is not usually the fact that higher levels of inputs are needed to sustain the same level of output. For example, villagers may have to walk longer distances to find the fruits they need. Another indicator is the reduced quality of the harvested resource, for ex-ample people logging trees in areas of smaller and smaller size.

GUIDANCE FOR MANAGEMENT OF HCV 5

1. Identification of threats and sources of threats for identified HCVs and evaluation of the potential harmful effects of forest operations over these resources.

2. Identification of possible conflicts between ecological and social aspects of HCVFs.

3. Work with communities to identify specific territories with this HCV whose management have to be coordinated with particular MU.

4. When this HCV is identified, the forestry plans and projects activities and strategies for municipalities development have to be revised according to HCV protection.

GUIDANCE FOR MONITORING OF HCV 5

1. Determine the current status and trends in the status of HCV5

2. Use the results from the monitoring to revise and adjust the forestry plans and projects activities and strategies for municipalities' development.

Annex 7 of HCVF Toolkit: Religious places of critical importance

List of holy places for Christians and Muslims in Bulgaria situated in or adjacent to forests

Orthodox monasteries.

Monasteries under the direct jurisdiction of the Holy Synod

1. Bachkovski “Uspenie Bogorodichno” - with a holy spring (aiazmo) and chapels outside the monastery

2. Rilski “Sveti Ivan Rilski” (with aiazmo outside the monastery)

3. Troianksi ”Uspenie Bogorodichno”

Vidinska eparchy:

4. Albutinski monastery cut in the rocks – village of Rabovo (XIII century)

5. Brusarski “Sveti Arhangel Mihail”

6. Dobridolski ”SvetaTroitza” (with a holy spring)

7. Izvorski “Uspenie Bogorodichno” (with a holy spring)

8. Klisurski monastery “Sveti Kiril & Metodi”

9. Chiprovsk I ”Sveti Ivan Rilski”

10. Rakovishki ”Sveta Troitza”

11. Lopushanski ”Sveti Joan Predtecha”

Vrachanska eparchy:

12. Dolnobeshovishki “Sveti Arhangel Michail”

13. Matnishki ”Sveti Nikolai”

14. Cherepishki “Uspenie Bogorodichno”

15. Strupezki ”Sveti Prorok Ilia”

16. Bistretzki ”Sveti Ivan Rilski”

Lovchanska eparchy:

17. Botevgradski ”Rojdestvo Bogorodichno”

18. Vracheshki ”Sveti Georgi Pobedonosetz”

19. Glozhenski ”Sveti Georgi”

20. Etropolski ”Sveta Troitza”

21. Praveshki ”SvetiTeodor Tiron”

22. Tetevenski ”Sveti Prorok Ilia”

23. Karlukovski ”Sveta Bogoroditza”

24. Chekotinksi ”Sveti Arhangel Michail”

25. Zlatishki ”Sveto Vzanesenie Gospodne”

26. Novoseski ”Sveta Bogoroditza”

27. Skravenski ”Sveto Preobrazhenie”

Velikotarnovska eparchy:

28. Batoshevski ”Sveta Bogoroditza”
29. Sokolovski ”Uspenie Bogorodichno”
30. Drianovski ”Sveti Arhangel Michail”
31. Kilifarevski ”Sveta Bogoroditza”
32. Preobrazhenski ”Preobrazhenie Gospodne”
33. Patriarsheski ”Sveta Troitza”
34. Liaskovski ”Sveti Petar&Pavel”

Dorostolo-Chervenska eparchy:

35. Ivanovski churches and monasteries cut in the rocks (natural reserve, cultural site with global importance, protected by UNESCO)
36. Karan Varbovka villages “Sveta Petka” (with a holy spring in the yard)

Varnensko-Preslavska eparchy:

37. Aladzha monastery
38. Preslavski monastery “Sveti Kirli & Metody”

Plovdivska eparchy:

39. Batkunski “St Peter&Pavel” (village of Patalenitza)
40. Gorno vodeski “Sveti Kirik & Iulita”
41. Muldavski “Sveta Petka Muldavska”
42. Monastery ”Sveta Troitza” in Krastova gora
43. Sopotski “Sveta Bogoroditza”

Starozagorska eparchy:

44. Maglizhki ”Sveti Nikolai Mirikliiski”
45. Chirpanski ”Sveti Atanasii Veliki”

Sofiiska eparchy:

46. Alinski “Sveti Spas”
47. Batulia “Sveti Nikola”
48. Bistrishki “Sveta Petka”
49. Bilinksi “Sveti Arhangel Michail”
50. Boboshevski “Sveti Dimitar”

51. Bukurovski “Sveti Georgi Pobedonosetz”
52. Mislovishki (Velinovski) “Sveta Bogoroditza”
53. Germanski “Sveti Ivan Rilski”
54. Giginski ”Sveti Kozma & Damian”
55. Goleshki “Sveti NikolayLetni”
56. Gornovasilishki “Sveto Vaznesenie”
57. Dragalevski “Sveta Bogoroditza”
58. Divotinski “Sveta Troitza”
59. Dolnolozenski “Sveti Spas”
60. Dolnopasarelski ”Sveti Petar & Pavel”
61. Eleshnishki “Sveta Bogoroditza”
62. Zemenski “Sveti Ioan Bogoslov”
63. Zhablianski “Sveti Ioan Predtecha”
64. Iskretski “Sveta Bogoroditza”
65. Kokalianski “Sveti Arhangel Michail”
66. Kremikovski “Sveti Georgi”
67. Kurilovski “Sveti Ivan Rilski”
68. Leva reka “Sveti 40 machenitsi”
69. Odranitza ”Sveti Petar & Pavel”
70. Osenovlashki “Sveta Bogoroditza”(Sedemte prestola)
71. Peshterski “Sveti Nikola”
72. Razboishki “Sveta Bogoroditza”
73. Radiboshki “Sveva Troitza”
74. Seslavski “Sveti Nikolay”
75. Transki “Sveti Arhangel Michail”
76. Shumski “Sveti Arhangel Michail”

Nevokopska eparchy

77. Gornobreznishki “Sveti Prorok Ilia”
78. Gotzedelchevski ”Zhivopriemnii iztochnik” (with holy spring)
79. Rozhenski “Rozhdestvo Bogorodichno”
80. Troskovski “Sveti Arhangel Michail”
81. Hadzhidimovski “Sveti Georgi Pobedonosets”

MUSLIM MONUMENTS

Teketo hamlet, Haskovo region – ritual center with a tomb of Osman baba

Bivoliane, Haskovo region –tomb of Elmala baba

Dambala locality, Momchilgrad region – three tombs and a healing spring

Zvezdelina, Momchilgrad region – tomb of Siurmeli baba

Gasak hamlet, Momchilgrad region – tomb of Kazer baba

Postnik hamlet, village of Nanovitza, Momchilgrad region – tomb of Ahat baba

Podkova, Momchilgrad region – Mosque of the seven virgins (cemetery forest)

Dazhdovnik, Krumovgard region – tomb of Yamur baba

Nova Zagora – tomb of Kademli baba

Balchik – tomb of An Iazal baba

Isperih – tomb of Demir baba