

# Identifying, Managing, and Monitoring High Conservation Value Forests in Bulgaria

Practical guide

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## INTRODUCTION

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### WHAT ARE HIGH CONSERVATION VALUES AND HIGH CONSERVATION VALUE FORESTS?

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Modern understanding of forest as a multi functional system, including ecological, social, economic, aesthetic and other functions needs broader reflection of its values in national and world legislation and increasing number of initiatives and activities for its management.

The idea of High Conservation Value Forests (HCVFs) was developed by the Forest Stewardship Council (FSC) and first published in 1999. This concept moves the forestry debate away from 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 in Table 1. HCVs are values that are important and need to be protected. High conservation value forests are forests 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.

**Table 1: Definition of High Conservation Value Forests**

HCVFs are those forests that possess one or more of the following attributes:

HCV1 Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).

HCV2 Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.

HCV3 Forest areas that are in or contain rare, threatened or endangered ecosystems.

HCV4 Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).

HCV5 Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, daily needs, health).

HCV6 Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

FSC Principles and Criteria, February 2000

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 government agencies.

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## WHAT IS THE HCVF TOOLKIT?

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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 a forest has been identified.

After a discussion about identification of national High Conservation Values and their finalization, a number of potential uses of this toolkit will be found:

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

Forest managers can carry out evaluations on their forest areas to determine whether any of the defined HCVs are present within their forest management unit (FMU). 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 assessments in the evaluation of compliance with certification requirements of specific FMUs.

***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 and conservation planning, and the development of forestry projects and plans.

***d. Use by purchasers implementing policies related to HCVF***

Purchasers 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 FMUs, 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 will require an understanding of the uniqueness of forest areas and their trends and 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 Toolkit has not been developed by FSC and thus should not be considered as an official FSC policy or guidance.

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#### HOW WAS THE BULGARIAN HCVF TOOLKIT DEVELOPED?

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The Bulgarian Toolkit uses a format similar to a Global Toolkit developed by ProForest. The Global Toolkit was created to help drafting groups develop guidance on HCVF at a national level. The Global Toolkit is expected to guide the development of national toolkits in many countries all over the world. Proforest and the 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, of the National Nature Protection Service at the Ministry of Environment and Water, 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's forest management Principle Nine (see Table I above) within the context of Bulgarian conditions and has created specific High Conservation Values appropriate within 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 two 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 also from statistical research works, carried out by other forestry and social projects. The Institute of the Monuments of Culture, the Institute of Ethnography and the Institute of Archaeology provided data and maps. 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 includes experts in forest management, experts in the social field, biodiversity and certification experts, forestry experts, experts in forest fires and erosion. The working group includes also representatives of the National Forestry Board, Ministry of Environment and Water, Institute of Forests, Faculty of Biology to the Sofia University, Vitosha Nature Park Directorate, Green Balkans, 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. Some of the working group members have participated in the development of the Bulgarian Forest Certification Standard.

The identified HCVs and the toolkit methodology were field-tested in the autumn of 2004 (State game breeding station Rakitovo), and also during the real forest management certification process according to FSC scheme in the spring of 2005 (Dospat SFU and Borika Private Cooperative, Stoikite village). A broad consultation process was carried out and the draft toolkit was represented in front of a wide range of forest experts and stakeholders. The team collected the opinions, comments, recommendations or additions from as biggest as possible number of stakeholders, in order to incorporate them into the form and contents of the national toolkit. The Toolkit was coordinated with National Forestry Board (NFB), which is the body responsible for the forest management of state forests and the control over forest activities in the country. For this purpose in the National Forestry Board was created a expert working group, who will adapt the toolkit to the practises and forest administration in the country.

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

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

Once implemented in practise The Toolkit will be updated regularly according to the enhancement of different forest practises and legislation.

The national toolkit for identification, management and monitoring of HC VF is available for all stakeholders, it can be provided by WWF DCP Bulgaria office: Sofia 1421 Tzanko Tzerkovski 67, A, 3; tel: +359 2 964 05 46, fax: + 359 2 964 05 45; e-mail: [office@wwfdcp.bg](mailto:office@wwfdcp.bg); [fcic@wwfdcp.bg](mailto:fcic@wwfdcp.bg) or [www.wwfdcp.bg](http://www.wwfdcp.bg).

A copy from the National Toolkit can be found in any NFB office – State Forestry Units (SFU) or Game breeding stations in the country, as well as in the Ministry of water and environment units – RIEW in the country or from the Environmental NGOs.

## USING THE TOOLKIT

The toolkit includes one chapter for each of the six types of High Conservation Values, as well as an appendix. Each chapter begins with an introduction (including 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.

Each component consists of a discussion, rationale and instructions/guidance to users on the identification of the value's presence and on managing and monitoring the forest resource to maintain the value. These sections form the heart of the HC VF toolkit.

### 1. Rationale

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.

### 2. Identifying the Presence of a HCV

The toolkit includes an evaluation methodology for each component and its applicability within a forest 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, knowledge of the trends and threats to forest resources, and 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 to make this determination.

However, for many components (e.g. HCVs 5&6) the evaluation process will be more complicated, timely, and possibly costly. In these cases, the toolkit has divided the process into preliminary and full assessments. For social values, a threshold is introduced for determining if a value is fundamental or critical to the well being 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 of biological or social sciences (e.g. forest managers and timber purchasers). The preliminary assessment is usually in the form of a “yes or no” question and asks 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 FMU. 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. Preliminary assessments often utilize maps and other information that can be easily accessed by forest managers. If a toolkit user determines that a forest area does not exhibit 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 past 13 years has turned forests into the main source of subsistence for the local people in many forest areas. Apart from the 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 Mountains. Non-material benefits from the forests are of no minor importance. Almost one third of the country area is covered with forests – 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. Inevitably, an attempt to develop specific national HCVs in as dynamic and fast changing country as Bulgaria will fail, because the identified values would be appropriate in some areas or time periods and irrelevant or incomplete in others.

Thus, a modified process is used to identify HCVs 5 & 6. 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. When is a forest fundamental to a local community’s well being? When is a forest area critical to community’s culture? Thresholds can be either quantitative or qualitative.

The process of identifying relevant social values utilizes three-steps - a preliminary assessment, full assessment, and threshold evaluation. In other sections of the toolkit, if a forest area exhibits an identified value, the forest is considered a HCVF. However, as social values will be frequently applicable in Bulgaria, the toolkit user must evaluate whether the forest area is critical to maintaining the value. For example, if a

community utilizes local forest areas for the production of fodder for animal breeding, the threshold questions help evaluate how much communities rely on the forest as a source of fodder and pasture.

The thresholds are questions that are examined as part of the consultative process with local communities and that are strongly linked to the information necessary to complete the full assessment of these values.

Thus the process of identifying social values will be:

**Preliminary Assessment Questions: If relevant ⇒ Full Assessment Questions: If relevant ⇒ Threshold Analysis: Meets Threshold Criteria ⇒ HCV Identified**

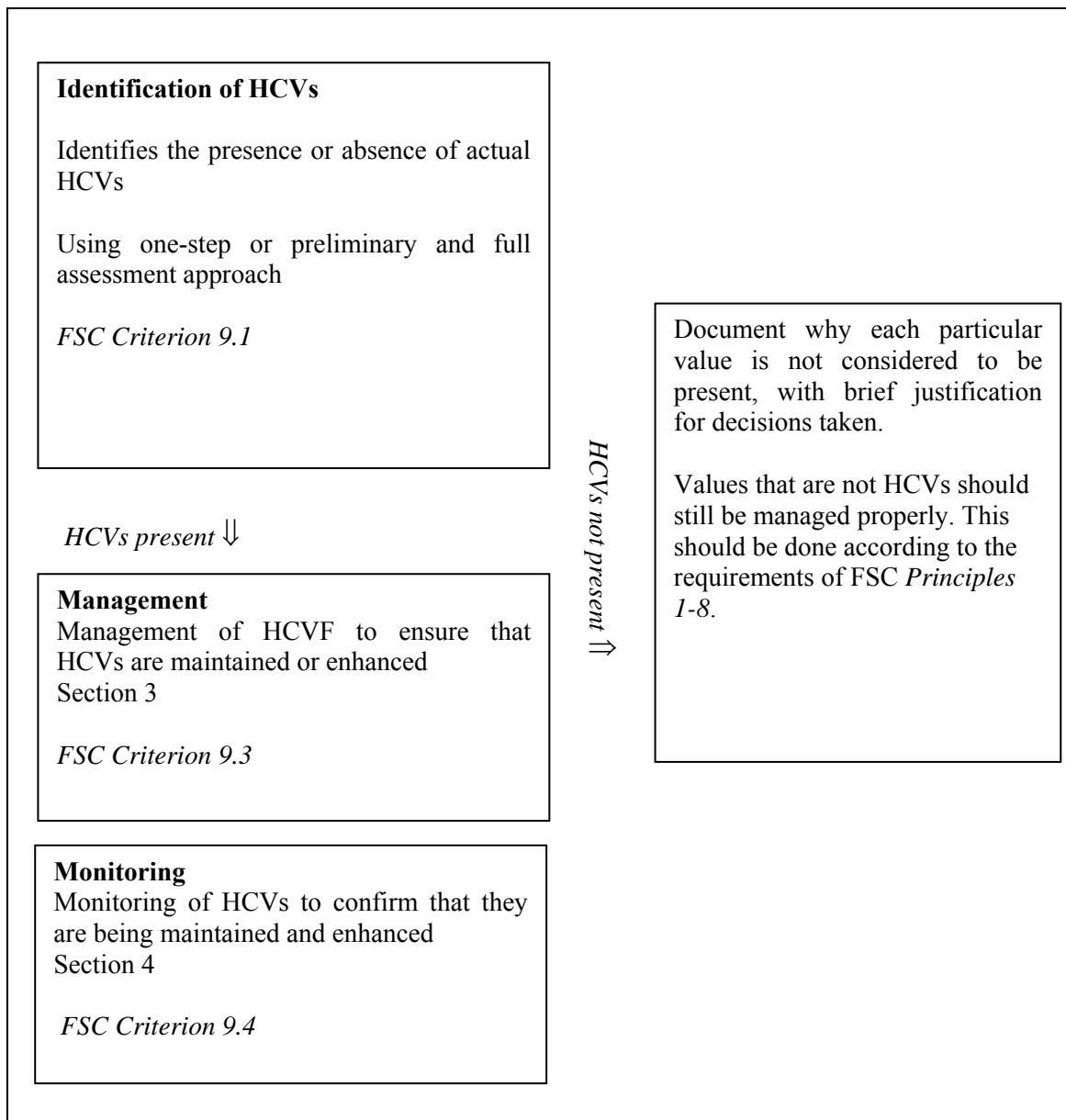
The toolkit drafting team has developed the social section on the base of existing studies and members' experience in numerous regions of the country. However, it is likely that the toolkit examples do not identify all types of potential HCV. Thus, this toolkit should be used as a guide to direct the 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.**

### 3. Recommendations for managing, protection and monitoring of values

If, after fully evaluating the relevance of a particular value, the examined value is not relevant, no further action is necessary. If a value/component is relevant to the FMU, then the manager must take steps to make the necessary changes to ensure the protection, management and monitoring of the value. See Figure I below.

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.

**Figure I. Methodology for identifying and managing HCVF**



For additional information regarding the toolkit development, please contact World Wide Fund for Nature, Danube-Carpathian Programme, Bulgaria:  
 Sofia 1421, Tzanko Tzerkovski 67, A, 3  
 Tel: + 359 2 964 05 46, fax: +359 2 964 05 45  
 e-mail: [office@wwfdcp.bg](mailto:office@wwfdcp.bg); zhbogdanov@internet-bg.net.

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## KEYS TO HCVF SUCCESS

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### 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 drafting group itself includes representatives of various organizations, which could help toolkit users in practice. There are also other relevant organizations and scientific institutions. A special Appendix to the final toolkit will list the organizations that can provide information on communities and nature conservation in the country. The more relevant and reliable experts users consult and collaborate with, the greater the likelihood that good decisions will be taken.

## 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 forest 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.:

- ***Assessing the presence of HCVFs***: where doubt exists as to whether an attribute, or 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 and 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 important and endangered large carnivore species like the bear, wolf or others.
- ***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 forest 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 more stringent requirements should be placed, if needed. In FMUs, located in HCVF, may need to reduce harvest intensities, create additional or larger conservation zones within production forest areas, and protect areas not currently protected.
- If communities rely upon a forest or a 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 should be made with genuine input from the interested community. Co-management and co-monitoring of production operations might be relevant. The communities are not restricted to those within the FMU; all communities are included, whose water supply depends on the particular forest area.

- If you are unsure whether a HC VF area can be logged or if it should be zoned as a conservation set-aside, put it into the set-aside until you have shown beyond doubt 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. FOREST AREAS CONTAINING GLOBALLY, REGIONALLY OR NATIONALLY SIGNIFICANT CONCENTRATIONS OF BIODIVERSITY VALUES (e.g. ENDEMISM, ENDANGERED SPECIES, REFUGIA).

### INTRODUCTION

This HCV pertains to FMU's management assessment in connection with biodiversity protection in a general way. This assessment refers to influence over species as influence over ecosystems and their functioning.

In the Bulgarian context this toolkit has identified the following components:

- 1.1 Protected Areas
- 1.2 Threatened, endangered and endemic species
- 1.3 Critical concentrations of species

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### HCV1.1 PROTECTED AREAS

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#### RATIONALE

Protected areas (PA) are a vital component of biodiversity conservation. The identification of HC VFs included in protected areas can be easily 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. The different ownership, regimes and uses in these areas, the different responsible and management bodies, have resulted in the establishment of six protected areas' categories 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 the IUCN categories of protected areas is given in table 2:

Table 2

| PAA Categories | Definition of the category according to PAA   | IUCN Categories |
|----------------|---|-----------------|
| Reserve        | Model natural ecosystems, including characteristic and/or unique wild plant and animal species and their habitats.  | I (II)          |
| National Park  | Areas having no settlements within their boundaries and including natural ecosystems with a rich diversity of plant and animal species, characteristic and unique landscapes and sites of non-living nature.  | II (V)          |
| Nature Site    | Characteristic or unique sites of non-living nature, such as rock formations of scientific value, earth pyramids, caves, pot-holes, waterfalls, deposits of fossils and minerals, sand dunes and others, which possess extraordinary values because of their rarity, representativeness, aesthetic beauty or importance for | III (V)         |

|                 |   |         |
|-----------------|---|---------|
|                 | science and culture.  |         |
| Managed Reserve | Ecosystems including rare and/or endangered wild plant and animal species and habitats.   | IV      |
| Nature Park     | Areas including various ecosystems with diverse plant and animal species and habitats, with characteristic and unique landscapes and sites of non-living nature.  | V (VI)  |
| Protected Area  | 1. Areas with characteristic and unique landscapes, including landscapes of people living in harmony with nature;<br>2. Habitats of endangered, rare or vulnerable plant and animal species and habitats. | VI, III |

The size, distribution, condition and threats to protected areas 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, as follows:**

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

#### IDENTIFICATION OF HCV 1.1

The presence of all designated protected areas in FMU that could be affected by forestry operations should be specified. This information, as information refers to relevant management plans is available from:

- National Nature Protection Service at the Ministry of Environment and Water
- “Protected Areas, International Cooperation and Relations with NGOs” Department at the National Forestry Board
- Directorates of State Forestry Units in the country
- Regional Inspectorates of Environment and Water
- Conservation organizations

If any such areas are identified in your forest management unit, follow the guidance below.

#### RECOMMENDATIONS AND INSTRUCTIONS FOR MANAGEMENT OF HCV 1.1

1. Carry out forest management activities only according to the management plans that apply to protected areas as defined above and their buffer zones.
2. If there is no endorsed management plan for related protected areas or zones then till its development management follows the requirements in PAA and in proclamation order, and following regulations: No clear cuttings, with exception for intensive plantations; Do not substitute the main forest species. Find the values that the protected areas are set up to maintain and assess how regimes and forest management activities maintain these values. Forest managers have to be sure that there are no activities in FMU with negative impact over existing or proposed protected areas or zones.
3. Make periodic checks for the establishment of new protected areas or new proposed protected areas that could potentially be affected by forest management activities.

#### RECOMMENDATIONS AND INSTRUCTIONS FOR MONITORING OF HCV 1.1

1. Monitoring system is developed for each management plan in protected areas and has to be implemented. Forest managers have to identify indexes referred to observation of forest management activities and to carry out this monitoring according specified schemes, terms, criteria and methods of assessment.
2. If there is no endorsed management plans for related protected areas or zones than managers have to contact the protected area or zone managers and all together have to follow for any negative impacts over HCV in protected areas. Together with protected area managers, define monitoring standard operating procedures and indicators to prevent negative impacts on protected areas' high conservation values by FMU operations. Examples can be affecting water quantity or quality, disturbing wildlife migration routes, increasing fire risks.

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## HCV 1.2 THREATENED, ENDANGERED AND ENDEMIC SPECIES

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### RATIONALE

Forests can be defined as habitats of importance for a number of rare and threatened vertebrate and invertebrate animal and plant species. 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. Similar quantitative analyses could be made only for a small number of groups (for example birds). Under this HCV 1.2 come as forests - deposits of threatened and endangered species, as well as forests with natural characteristics making them a potential habitat of such species. This is due to the species rarity and necessity of protection 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. The indicator species are listed in *Annex 1*. This list is based on the "critically endangered" and "vulnerable" categories of the IUCN Red List, Red Book of the Republic of Bulgaria, volume I and II, and the Atlas of Endemic Species in Bulgaria. The list should be periodically revised with the alteration in species status.

### DEFINITION, CRITERIA AND THRESHOLD

HCV are areas from FMU where each species listed in Annex 1 from the toolkit occurred. These are species with such a high conservation value, that the permanent presence of only one of them in a FMU is sufficient to be this area a HCVF. LFFF including habitats of species listed in Annex 1 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 forest management unit. This information should now be analysed to determine whether the FMU contains any species from *Annex 1* that are threatened, endangered or endemic. The presence of only one species from the list in the FMU is an indicator for HCV.

Where the habitat is part of a private property land, which is smaller than a subdivision, the property is defined as a HCVF. Where the property is bigger than a subdivision, the subdivision is defined as a HCVF .

For animal species HCVF can be bigger than the property, as the criteria for its definition are listed in *Annex 1*.

## RECOMMENDATIONS AND INSTRUCTIONS FOR MANAGEMENT OF HCV 1.2

1. Periodic consultations with experts to assess potential presence of little known, but threatened, endangered or endemic species occurring in FMU.
2. Key information for each species identified, as HCV have to be provided. This should include: current status (population and distribution); main trends and threats; Management impacts. The information must be considered to the particular HCVF, but also be in accordance with the other species habitats in the area.
3. In areas defined according to the thresholds in *Annex 1* are implemented only activities, under National Plans for Management of the Species (NPMS).
4. If there is no NPM for the species, on account of which is defined particular HCV, till its endorsement, management plan for HCVF is developed, which has to follow the specific requirements of identified HCV. An expert for the specific HCV species participates in development of the Management plan.
5. Specific recommendations have to be developed for management of each area with HCV (occurrence of some of the indicator species). Long term management plan for each HCVF have to be developed, considering requirements of identified species indicating presence of HCV, based on habitat-based approach. Management options include, but not restricted to: restoration measures; active management; strict protection. For example, it may be appropriate to mark and take into account during planning process and management: Some key reserve areas; Areas that maintain landscape-level connectivity; Areas that ensure maintenance of certain habitat features, such as provision of standing deadwood or riparian zone protection.
6. In the context of the managed HCVF may arise other options . Expert guidance may be needed during process of inventory and planning of HCVF management. Integrate management proposals into the broader planning process. Forest managers have to be sure that measures are actually implemented, for example through changing operational procedures and training programme to ensure that those changes are implemented. Training has to be provided for the employees that participate in forest management activities. Training has to introduce restrictions caused by presence of HCV and measures for protection and conservation of these values.

## RECOMMENDATIONS AND INSTRUCTIONS OF HCV 1.2

1. Have to develop indicators and plan for monitoring implementation and put them in practice. Examples of key monitoring indicators: Specific wildlife populations and trends for their occurrence in FMU; Protection of environment, quality and consistency of the habitat; Pre-operational planning checks; other quantitative data from forest guards such as hunting records.
2. Forest manager have to be aware of any changes connected with protection of HCV on landscape and national level.
3. If the HCVs include samples of natural ecosystems within a substantially altered landscape, features that help to maintain those HCVs within the landscape (e.g. corridors and buffers) should be monitored.

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## HCV 1.3 CRITICAL CONSERTRATIONS OF SPECIES

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### RATIONALE

The purpose of this part is to provide protection of forests with critical species concentration, which use this forest area permanently or only during specific period or particular stages of cycle of life. This includes critical places for reproduction and migrations, migration routes and corridors (regarding latitude and altitude). In this HCV ca be used existing systems for identifying areas with high species concentration, for example Ornithology important places, Botanical important places, Herpetological important places and etc.

Examples for important temporary concentrations:

- Concentrations of migrating birds
- Capercaillie (*Tetrao urogallus*) breeding place
- Bats colonies
- Fish migrations to places for spawn
- Breeding places of dears

## DEFINITION, CRITERIA AND THRESHOLD

**Lists with species indicators for this CV with their minimal concentrations in Bulgaria are listed in Annex 2. There are specified threshold values for each species. When there is a critical temporary or permanently concentration of species or important refuge areas, according to regulations in Annex 2, then the forest is HCVF.**

## IDENTIFICATION OF HCV 1.3

Identification of this HCV is divided into a preliminary assessment and a full assessment. If the preliminary assessment indicates that a HCV may be present, then the forest manager will be required to conduct further work to establish whether or not the HCV is actually present. This is the ‘full assessment’.

## PRELIMINARY ASSESSMENT

Verification has to be done whether the FMU contain landscape features, which determine concentrations of wild animals? This information can be provided by the local people, or from habitat surveys. Probably the forest manager collected most of this information as part of the forest management requirements. Special attention should be paid to the local knowledge – the forest manager should communicate with local people and record the information received from them. If the FMU contains forest areas with presence of any of the examples with important temporary concentrations listed in HCV 1.3 rationale, full assessment have to proceed.

## FULL ASSESSMENT

1. Biodiversity assessment should include survey for concentrations of migratory birds. Have to make verification for existence of threshold values listed in Annex 2. The verification should include one or more specific activities aimed at establishing whether there is a concentration of migratory bird species within the indicated forest types. The survey should consist of the following steps:

- Establish *when* the forest type(s) are likely to be used by migratory birds (with help of both local and expert knowledge)
- Conduct one or more *field surveys* to identify the present species of migratory birds
- The field survey should use the best scientific *methods* (expert assistance might be needed)
- Both the *number* of species and the *population densities* should be estimated
- The survey report should include a full description of methods (with justifications) as well as the results.

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

2. If in the FMU are areas recognised as important temporal feeding or refuge areas, or separate groups of trees from the LFFF, which are used as sleeping areas from significant number of animals, or areas of reproduction importance, then the forest manager should conduct surveys looking for concentrations of species. Have to check for existing threshold values according to Annex 2. The survey should include recommendations as to whether any concentration is significant (local knowledge will be important to inform this decision).

## 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’s dens inhabited by x bears’ or “the rocks of subsection x inhabit bats colonies from species A and B with average number of C or D”. Maps with spatial location of the HCV have to be created.
  2. Identify key information for each HCV. This should include: importance (global, provincial, local, etc.) of the temporal 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 as HCV.
  3. Have to provide leisure conditions in areas defined by *Annex 2*, through stopping any forest activities when areas are used by species listed in *Annex 2*. During the rest of the year activities for protection of defined areas in compliance with species recommendations are implemented, the specific HCV is developed for their use according to National Plans for Management of the Species (NPMS).  
If there is no NPMS for the species, for which is defined specific HCV, a management plan for HCVF is developed until its endorsement, complying with specific requirements of identified HCV.
  4. An expert for the specific HCV species participates in development of the Management plan.
- ✓ Develop concrete recommendations for management of each HCV. They may include active management, measures for recovery or strict protection, **according to particular conditions**. It may be appropriate to define some key reserve areas, maintain landscape-level connectivity, and/or ensure maintenance of certain stand-level habitat features, such as canopy cover. For instance – Important Bird Areas. Regions and seasons of non-disturbance should be defined: 150 m, August-March.
  - ✓ Integrate management proposals into the broader planning process. HCVF management plan has to provide protection of defined HCV. Forest manager have to be sure that measures are actually implemented, for example through changing operational procedures and ensuring that a training programme has been completed. Training has to introduce restrictions caused by presence of HCV and measures for its protection.

### RECCOMENDATIONS AND INSTRUCTIONS FOR MONITORING OF HCV 1.3

1. This part of the HCVF management includes accomplishment of periodical monitoring and analysis of forest condition, through field observations and development and application of specific programme for each HCVF. For development and application of this programme consultations with experts are needed – environmental conservation experts, consultations and information can be received by relevant institutions (departments of Ministry of Environment and Water and National Forestry Board).
2. Monitoring program has to be developed due to standard operational procedures, which include clear indicators, appropriate for the management purposes. It can be conducted once or many times per year, if seasonal report is needed, for example if important events occurred in FMU only during specified months.
3. 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 natural 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 found out during the monitoring process that management plans do not reflect real forest conditions, treats and trends. In this case have to make consultation with an expert, to define if there are gaps in plans and if current management model is critical for conservation of species representing HCV. If necessity for more strict management regime is determined, areas with HCV 1.3 can be included in Action plan for biodiversity conservation within a bigger landscape site or can be included in protected areas.

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## HCV2. IMPORTANT FOREST AREAS FORMING LANDSCAPES OF REGIONAL OR NATIONAL SIGNIFICANCE, WHERE ALL NATURALLY OCCURRING SPECIES EXIST IN NATURAL PATTERNS OF DISTRIBUTION AND ABUNDANCE.

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### INTRODUCTION

Currently there is no legislation 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 should be large in size, and relatively unaffected by recent human disturbance and fragmentation (% of unfrosted areas). The identification of this conservation value aims at including typical landscapes from the forest-vegetation area and their 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

**During development of the criteria for forests distribution, according HCV 2 principle of forest-vegetation district is used. Forests, which meet this conservation value, are separated by criteria - naturalness, fragmentation and minimum size of the area hosting vital populations of naturally occurring species.**

1. Naturalness – the forest consists of vegetation 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 – based on the type of plantations, their geographical distribution and the area necessary for the normal vital activities 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: the Pirin, Rila, Rhodope, Vitosha and Strandja Mountains, the Danube Hilly Plain, the Balkan and Fore-Balkan Mountains.**

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 Mountains, the**



**Danube Hilly Plain, the East part of the Balkan and Fore-Balkan Mountains at the altitude to 1000 m. The Pirin, Rila, the Balkan (without East part) and Rhodope (without East part) at above 1000 m.**

The forest type is determined according to the tree species that form the forest. Tree species form pure or mixed plantations, and either of them might dominate.. As a **third step** tree species are identified: **they have to be naturally widespread in Bulgaria.**

#### FULL ASSESSMENT

Table.2.1: Identification according to the table with criteria parameters.

| Forest   | % Naturalness | % Fragmentation | Min. Size, ha |
|--|---------------|-----------------|---------------|
| <b>Strandja Mountains, the Danube Hilly Plain, the East part of the Balkan and Fore-Balkan Mountains</b> | 70            | 7               | 40 000        |
| <b>The Pirin, Rila, the Balkan and Rhodope</b>   | 80            | 5               | 50 000        |

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

The complete information concerning the development of HCV2 and the graphical materials and maps are available on a magnetic wearer and can be provided from the State FMU or WWF DCP Bulgaria office: Sofia 1421, Tzanko Tzerkovski 67, A, 3; tel: + 359 2 964 05 46, fax: + 359 2 964 05 45; e-mail: [office@wwfdcp.bg](mailto:office@wwfdcp.bg); [fcic@wwfdcp.bg](mailto:fcic@wwfdcp.bg) or internet address: [www.wwfdcp.bg](http://www.wwfdcp.bg)

#### RECCOMENDATIONS AND INSTRUCTIONS FOR MANAGEMENT OF HCV 2

1. Planned forestry activities should not decrease the forest cover of the area.
2. Forestry systems should maintain a complex forest structure of different ages and on landscape level. Environmental and various forestry systems have to be used according to specific characteristic of each plant.
3. Not less than 2% from forests from main presented tree species in the FMU territory or part of them belong to HCV2, have to be separated for Old-growth forests. Detail recommendations for Old growth forests management are given in *Annex 4A*, table 15.
4. The ecological principles and practises during planning process and forestry activities have to be observed.
5. Priority is given to natural regeneration. Have to implement forestry systems, which provide natural regeneration.
6. The root tree composition of the plantations is not permitted to be changed even during the reconstruction activities. This is applied also when the reconstructions are made for plantations over poor habitats.
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 dendrariums and geographical cultures, as well as animal species outside their natural area of distribution, excluding State Game-Breeding Stations.
8. Artificial forestation on natural open areas in wooded lands is not permitted, with exception of the anti erosion activities.
9. Activities (including forestry activities) that increase the anthropogenic fragmentation of the area are not allowed, even if the current percent is below the defined in the respective criterion. Roads and infrastructure planning have maximum to maintain landscape integrity. Appropriate elements have to be provided, decreasing fragmentation influence of the area, which will provide animals movement –for example planning of corridors for movement, connections and leisure zones for animals and 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 and also procedures related to alteration in the purpose of lands and forests from the forest fund, etc.
3. Control over implementation of timber activities have to be done.
4. Once in every 5 years a field sites revision should be carried out, in which activities related to any of the criteria are implemented. Consultations with communities and relevant authorities to ensure that they are aware of each other activities, and work to mitigate potential future threats such as illegal logging, wildcat mining, and unsustainable agriculture.
5. Have to make monitoring over influence of anthropological external threats, for example fires, as a monitoring of conditions for occurring of extreme events, for example pest attacks or others and for implementing of preventive measures when it's possible.

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## HCV 3. FOREST AREAS THAT ARE IN, OR CONTAIN RARE, THREATENED OR ENDANGERED ECOSYSTEMS.

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### 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 statute not always means 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, which they present. This includes mainly forest types which were previously widespread or typical for wider region.

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

### DEFINITION

**All LFFF in Bulgaria including representatives of habitats listed in *Annex 4* should be considered as HCVs. HCV forests are those with characteristics, distinguish them as Old growth forests, with their age structure and natural level, which are habitats for complex species from specific ecological and taxonomic groups.**

### CRITERION AND TRESHOLD

All forests complying with the characteristics in Annex 4 have HCV 3. Nevertheless that they don't fall into Annex 4 list, for forests with HCV 3, they are accepted and those, which have characteristics, distinguishing them as in a stage of Old growth forests. These forests include:

1. Big living trees with diameter close to maximum for this tree species;
2. Trees with dry, deformed or broken tops and branches;
3. Trees with massive living branches (often with diameter bigger than 25 sm);
4. Trees with fire scars or trees with hollows;
5. Big dead trees which are still connected to the root;
6. Fallen big dead trees, which are in different stage of decomposition;
7. Irregular spatial structure.

### DEFINITION OF HCV 3

### PRELIMINARY ASSESMENT

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

During the survey of existing HCV 3 very useful for the forest managers will be consultation with all existing maps of forest types within the FMU. Environmental experts can provide consultations to guarantee that habitats comply or not with described in HCV 3 definition and for those in *Annex 4*, consultations and information can be received from related institutions (Departments of National Forestry Board, Ministry of Environment and Water)

### FULL ASSESMNET

If the existence of HCV areas in FMU is identified or potential, field observation have to be carried out for identification of accurate borders of HC VF. After defining the borders, they are mapped on the FMU map, the data have to be put in the planning activity documentation, as well in a following forest management on the area of FMU.

With a view to the above the following examples can be indicated for identifying HC VF by HCV 3: Existence of Black Alder forests or natural Austrian Pine forests, or natural forests of *Pinus peuce* and *Pinus heldreichii* or others according *Annex 4*, all of them are HC VF. Their accurate borders have to be defined on the field and should be mapped on the FMU map and take them into account during forest management and planning activities in the area, in order to provide protection and extend (of possible) of HCV.

Recommendations for management of HCV3 forests are given in *Annex 4A*.

### RECCOMENDATIONS AND INSTRUCTIONS FOR MANAGEMENT OF HCV 3

This part of the HC VF management includes accomplishment of periodical monitoring and analysis of forest condition, through field observations and development and application of specific programme for each HC VF. For development and application of this programme consultations with experts are needed – environmental conservation experts, consultations and information can be received by relevant institutions (departments of Ministry of Environment and Water and National Forestry Board).

1. Monitoring program has to be developed due to standard operational procedures, which include clear indicators, appropriate for the management purposes. It can be conducted once or many times per year, if seasonal report is needed, for example if important events occurred in FMU only during specified months.
2. During fieldwork the following indexes are observed, vitality of each tree, plantation structure, state of health, existence of degeneration processes, frequency, size and location of empty spaces, fragmentation levels, basal area, succession presence and its direction and etc. and/or remote sensing interpretation of received data.
3. The threats for these HCV 3 forest types have to be specified and how severe they are, and management measures required to decrease them have to be identified.

4. Successful implementation of monitoring measures require training of the employees, involved in forest management activities, all have to be aware of the restrictions concerning the HCV presence and measures taken for its protection.

5. During the monitoring process is possible to found out that management plans do not reflect real forest conditions, treats and trends. In this case consultation with an expert have to be made, to determine if there are gaps in the plans and if current management model is critical for this ecosystem type conservation. If necessity of change to more strict management regime is determined, areas with HCV 3 can be included in Action plan for biodiversity conservation within the framework of bigger landscape site or can be included in protected areas.

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#### HCV 4. FOREST AREAS THAT PROVIDE BASIC SERVICES OF NATURE IN CRITICAL SITUATIONS (e.g. WATERSHED PROTECTION, EROSION CONTROL).

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##### RATIONALE

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

- Forests unique sources of drinking water
- Forests critical for water catchments
- Forests critical for erosion control
- Forests providing a barrier for fire
- Forests with critical impact on agriculture and aquaculture

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#### HCV 4.1 UNIQUE SOURCES OF DRINKING WATER

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##### 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 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 Regulation 3, 2002. HCVs are also LFFF adjacent to sources of water for drinking and other daily needs, but without officially identified sanitary guarded areas, in case they include river and riparian flooded areas at least 3 500 m up from the water catchment and 50 m down, with a width no less than 1500 m on both river banks.**

##### IDENTIFICATION OF HCV 4.1

1. The local water economy companies supplying drinking water have to be contacted, or the competent Basin Directorate to MoEW, in order to identify the existing sanitary guarded areas for drinking water sources in the specific forest management unit.
2. In case there is no centralized water supply for a settlement or for 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 (critical springs, headwaters, and other sources of drinking/daily water.)

Identify whether the communities have access to alternative sources of water that is not dependent on the FMU (for example piped network bringing water from a source outside the FMU). Check whether this access is available all year long.

Identify and map the location of important community sources of water for drinking and other daily needs, as well as the level of protection that is provided. 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 a water table affected by the forest.

The manager/forest user has to conduct a needs analysis (possibly in conjunction with HCV 6) of important water sources.

The water catchments area, the water source, has to be identified, and whether it is partially or entirely located within the forest management unit.

Identify whether the forest cover affects the quality or quantity of these water sources.

## RECOMMENDATIONS AND MANAGEMENT GUIDANCE FOR HCV 4.1

1. The forest manager has to comply with the management and conservation regimes, regulated under Regulation 3, 2002, concerning sanitary guarded areas surrounding sources of drinking and other daily needs water.
2. When there are no established sanitary guarded areas of drinking water sources, the requirements of HCV 4.1 have to be used. Specific management and protection measures have to be developed, complying with the requirements in Regulation 3, 2002. These are some general recommendations for forestry activities:
  - ✓ Support the establishment and maintenance of mixed plantations with uneven spatial structure;
  - ✓ Forestry systems have to be used, which provide permanent forest cover in forested water catchments;
  - ✓ The density/fullness of plantations in the water catchments have to be up to 0.5, and not above 0.8, because in this case the percentage of evapo-transpiration grows;
  - ✓ Prohibition of bare loggings;
  - ✓ 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 measures for their protection.
4. The forest managers have to search compensations for missed benefits or extra costs of the forest management during the process of sanitary guarded areas development.

## RECOMMENDATIONS AND GUIDANCE FOR THE MONITORING OF HCV 4.1

Forest managers shall make use of the water monitoring carried out by expert bodies – RIEW, or water economy companies.

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## HCV 4.2 FORESTS CRITICAL FOR THE REGULATION OF WATER FLOW IN CATCHMENTS

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### RATIONALE

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

Where the forest covers large area from 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 or drought risk or water usage, the more likely the forest is crucial for maintaining these functions and more likely that the forest is a HCVF. Sometimes forests protect against erosion and landslides areas where the consequences, in terms of loss of productive land, damage to ecosystems, property 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 HCVs:

1. LFFF included in the water catchments areas of torrential water currants, whose forest cover exceeds 40%;
2. *Pinus mugo* communities;
3. LFFF forming the high forest border (HFB) and regulated under the Forests Act, or included in the 200 m belt below the HFB;
4. Natural riparian forests of *Q. pedunculiflora*, *Q. robur*, *Fr. oxycarpa*, *Ulmus minor*, *U. laevis*, *Salix alba*, *Alnus glutinosa*, *Populus alba*, *P. nigra*, *Platanus orientalis*, included in the flooded terrace of river currants;
5. Forests between the dyke and the right bank of the Danube, island forests and the 200 m belt from the high riverbank;
6. 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;
7. LFFF included in sanitary guarded area 3 of drinking water dams, regulated under Regulation 3, 2002.

## IDENTIFICATION OF HCV 4.2

1. Identify whether the forests fall within any of the HCV 4.2 definitions.
2. Identify forests in the FMU, included in catchments areas of torrential water currants (with irregular alterations in the water flow, depending on the intensity and quantity of rains).  
Sources of information could be the Hydro-meteorological Stations – for the water flow, Civil Protection departments and municipalities - for torrential activities. Examples for potential HCVFs are forests in the hydrographical system of all internal rivers, forests at the high forest border and forests in dam catchments areas.
3. In case such forests are identified, check past torrential activities (flooding) and their character.

## RECOMMENDATIONS AND MANAGEMENT GUIDANCE FOR HCV 4.2

1. The locations of all potential HCV areas in the FMU have to be mapped. It is recommended to use forest management materials and consult the experts. Field check has to be done in order to ensure accuracy of the mapped information.
2. Water protection forests are identified and delineated in the field.
3. Management activities have to be carried out in compliance with the Rules for Identification, Organization and Management of Forests and Areas with Special Designation. The planning and forestry activities in HCVF have to maintain and improve HCV 4.2. These are some general recommendations for forestry activities:
  - ✓ Forestry 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;
  - ✓ Support for the establishment and maintenance of mixed plantations with uneven spatial structure;
  - ✓ The density/fullness of plantations in the water catchments have to be above 0.5;
  - ✓ Prohibition of bare loggings;
  - ✓ Technological schemes and equipment have to be used to provide minimum damage of land surface during timber transportation;
  - ✓ When forestry activities are finalized, rehabilitation of damaged areas (i.e. forest skid trails) have to be carried out;
  - ✓ No forestry activities have to be carried out at *Pinus mugo* communities.
4. The staff involved in forestry activities has to be trained according to the limitations caused by the identified HCVs and measures for their protection.

## RECOMMENDATIONS AND GUIDANCE FOR THE MONITORING OF HCV 4.2

An adequate monitoring system has to be organized and implemented for forests containing HCV 4.2. The water monitoring carried out by expert bodies can be used – RIEW, or water economy companies.

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## HCV 4.3 FORESTS CRITICAL FOR EROSION CONTROL.

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### RATIONALE

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

**Regions:**

- Erosion process: The ridges and Southern slopes of the Balkan, Rhodope, Rila, Pirin, Vitosha, Belassitza, Ograzhden, Malashevka, Ossogovska and Konyavska Mountains.
- Avalanche processes: The Central Balkan, Rila, Pirin, Vitosha, Ossogovska Mountain and West Rhodope slopes.

**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 (Primitive Soils category of FAO)

### DEFINION, CRITERIA AND THRESHOLDS

**In Bulgaria the following LFFF are HCVs:**

- 1. LFFF with slope above 30° (or less, in case they are under the water-fusion area with slope above 10° and length above 200 m) with a total area above 1 ha and tree density/fullness over 0,6;**
- 2. Forests grown under technical projects for erosion control, regulation, bank-protection and wind-protection forest belts;**
- 3. Forests protecting settlements or communication structures, lie on the path of already fall avalanches (data from the Mountain Rescue Service), forests into the snow catchments areas with slope above 20°, forests situated under a deforested snow catchments area with length over 200 m and slope above 20°;**

### IDENTIFICATION OF HCV 4.3

1. Identify whether the forest covers some of the HCV 4.3 definitions.
2. Identify sites with slope above 30° in the territory of the forest management unit. Information about this can be collected from forest management materials and field checks. Relevant bodies or experts could also be contacted.
3. Snow catchments area covers territory with slope above 20° - 60° providing formation of snow cover with above 0,5 m depth. Information concerning potential avalanche dangerous areas 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 in the main rock;
    - areas with intensive weathering processes of the main rock;
    - peripheries of plateaus;
    - banks of water currants, which prevent the digging under the slope bottom;
    - LFFF in the list with avalanche dangerous areas according the Mountain Rescue Service data.

- Areas with already felled avalanches can be recognized by: deciduous forest or young coniferous forest strips lay on the slope direction, and on steep slopes in older coniferous forests.

### RECOMMENDATIONS AND MANAGEMENT GUIDANCE FOR HCV 4.3

1. The management of forests with HCV 4.3 have to comply with the requirements of FA about forests with special designation and aim the prevention of erosion processes.
2. The planning and management activities in HCVPs have to comply with HCV 4.3. General recommendations for forestry activities are:

In forests with crucial anti-erosion importance:

- ✓ When the plantation from the HCVP 4.3 list has one or more additional purposes (for example forest resort), the forestry activities have to achieve balance between them but the anti - erosion function is a priority;
- ✓ Have to be used forestry activities which provide permanent cover with forest of the wooded lands, as the density/fullness of plantations have to be above 0.5
- ✓ Mainly forest thinning and sanitary loggings have to be carried out;
- ✓ Rejuvenation loggings are allowed in forests with fast regeneration of sprout tree species;
- ✓ Bare loggings and short-term gradual loggings shall not be carried out in very steep areas (31-45°);
- ✓ In stony and ravine areas (above 45°) all forestry activities are forbidden;
- ✓ Equipment and technologies for bare loggings shall cause minimum damage to the vegetation and soil cover.
- ✓ If appropriate forested activities are provided as the native tree species have the priority;

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

- ✓ Loggings are not allowed;
- ✓ Activities providing additional vegetation have to be carried out;
- ✓ Activities strengthening the stability of the slope bottom during water currents are envisaged (including the construction of technical equipment forming a balance profile).

In forests preventing the avalanches:

- ✓ The assessment of plantation stability is important and measures for its strengthening if needed;
- ✓ If forestry activities are needed than cautious intervention with low intensity are recommended;
- ✓ Bare loggings are forbidden;
- ✓ Wide-open areas should not be created during the regeneration cutting as well as open areas on the slope direction;
- ✓ Set up and maintain plantations with different ages with group structure and maximum density;
- ✓ Activities providing appearance of additional vegetation;
- ✓ Activities in mountain pine formations are not allowed;

3. Skid trails, log yards and clearings needing 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. Developing of management plans or rules for rehabilitation of damaged or other areas, threatened by erosion and/or areas where the monitoring indicates high levels of erosion.
5. The staff involved in forestry activities has to be trained according to the limitations caused by the identified HCVs and 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 forests with HCV 4.3. It is recommended that RIEW experts 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 – current erosion activities (damaged areas). Annual monitoring;
  - ✓ Long-term – the depth of soil profile and dead forest cover (DFC) are measured. Monitoring– each 10 years.



✓

3. In forests preventing landslides and screens the dynamics of the following parameters is monitored:

✓ For existing screens – volume of accumulated materials is measured;

✓ Area dynamic of the landslide;

✓ Volumetric dynamic of the destroyed area.

Annual monitoring is carried out.

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

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## HCV 4.4. FORESTS PROVIDING A BARRIER FOR FIRE

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### RATIONALE

Fires are part of the natural dynamics of forest ecosystems. Forest fires, whether originate 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, or 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 plantation in a key position can prevent fire spreading to other areas. Well growth and dense deciduous forest is more fireproof than sparse deciduous or coniferous forests because of the fall of leaves and decaying. During the big fires the deciduous forests have the biggest leaf density and in the same time the leaves felled during the last fall are in first stage of decay, therefore there is no enough inflammable material compared for example to coniferous forests. Other point of view is that the forest has to be very well growth, with dense crowns cover thereby will restrict the grass and bushes growth as storeys. This supposed restriction of activities, which decrease the crown cover; leave easy flammable wastes and cause appearance and growth of vegetation in down storeys until the full forest coverage is completed.

### DEFINITION

**All deciduous forests among coniferous plantations, between coniferous plantations and settlements, and between coniferous plantations and lands with different agricultural uses, that are minimum 100m and maximum 250 m wide and include deciduous species except Birch, Robinia and poplar hybrids/cultivars), are HCVF.**

### IDENTIFICATION OF HCV 4.4

1. Identify fire expertise relevant to the region of the forest management unit and obtain information on fire history, causes and forecasts. For more information contact relevant authorities or experts, review maps relevant to the wider landscape, review forest management materials, collect information from field visits.
2. Determine whether there is a trend of development of large-scale fires near or bordering the FMU.

### RECOMMENDATIONS AND MANAGEMENT GUIDANCE FOR HCV 4.4

1. Ensure the integrity of forests against fire threats. Forests that are fragmented, with 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 have to be above 0.7.
3. In case no such strips exists, 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, complying with the forest legislation in the country.

### RECOMMENDATIONS AND GUIDANCE FOR THE MONITORING OF HCV 4.4

The monitoring of HCV 4.4 shall include frequency and area spreading of burnings and fires in the forest management unit.

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## HCV 4.5. FORESTS WITH CRITICAL IMPORTANCE FOR THE PROTECTION OF AGRICULTURAL ACTIVITIES (AGRICULTURE, AQUACULTURE) AND INFRASTRUCTURE SITES

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### 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 economic production. The forests impact will vary according to the climate and topography, spatial configuration of the agricultural land and the forest, as well as the crops types. Forests influence also the fish resources in water bodies located in them or passing by. 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 whose agriculture or fishery is the main livelihood are particularly vulnerable from production loss. Forests established particularly for the protection of engineering equipment have critical importance for maintenance of economic activities and existing infrastructure sites. Their crucial importance and meliorative influence includes stabilization of environment, surrounding engineering equipment, development of optimum regime for isolation of vehicles, accumulation of toxic substances, noise insulation and decrease of evaporation from inter- canal areas.

This element of HCV4 aims to identify forests that have crucial importance in maintaining the services on which depend the agricultural production and fish supply and engineering equipment. 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, which are fish reproduction sites. Forests protecting engineering equipment include: 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 influence over forest functions, on which depends agriculture, fish resources and protection of engineering equipment, 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 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, Rezovska (the Bulgarian bank of it) Rivers.**
- 3. Forests planted for the protection of engineering equipment.**

### IDENTIFICATION OF HCV 4.5

1. Identifying whether there are forests complying with HCV 4.5 requirements in the FMU. Sources of information can be forest management plan, maps of forest areas, land use maps, social research, consultations with communities and stakeholders in or adjacent to the FMU, data from the field work.

### RECOMMENDATIONS AND MANAGEMENT GUIDANCE FOR HCV 4.5

1. Any threats of key forest functions from FMU operations have to be assessed. After the assessment consultation with communities and relevant experts and bodies has to be organized, to determine

- how external activities affect critical forest areas, and take measures 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 openwork (blow through) field-protection belt. 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 50%.
  4. The state of fish resources is crucial for riparian forests through 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. The forest thinning in forests protecting engineering equipment have to be carried out with moderate intensity. Restoration activities have to provide gradual transition between the old and the new forest generation, which shall not decrease substantially protection functions of the forest – only loggings with a long restoration period have to be implemented.

## 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.

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## HCV 5. FOREST AREAS FUNDAMENTAL TO MEETING BASIC NEEDS OF LOCAL COMMUNITIES (e.g. SUBSISTENCE, DAILY NEEDS, HEALTH).

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### INTRODUCTION

Many conservation categories assumed that people always goes against forests. The definition “high conservation value forests” (HCVFs) differ from them because it recognises that some forests are essential to human well being. 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 a HCV 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.

Employment, income and products are values that have to be protected, if possible, without prejudice to other values and benefits. However, HCVs concept does not include over exploitation of the resources, even when communities are currently economically dependent on it. Over exploitation during application of traditional practices is also not tolerated, if they damage or destroy the forests and their values.

The following forests are not HCV5:

- Forests providing resources of minor importance to local communities.
- Forests providing resources that could easy 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 using a method that threat 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 happen - the needs may decrease and disappear after a time.

In Bulgaria communities living in and 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, the distance to other settlements.

The assessment of alternative sources availability 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-dependant 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 capital. The all factors have to be carefully considered, and if doubt appears have 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 extractions cannot be considered as HCVs, as well as activities that threat HCVs 1 to 3 elements, 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
- Pasture and fodder – hay and leaf mass
- Mushrooms
- 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 assume that as a whole the population in Bulgaria has alternatives according to exploitation and incomes from forests and therefore HCV 5 is not clearly represented in the country. However since as a substantial part of Bulgarian forests located near small and isolated mountain settlements having a potential for HCV 5 than the managers/forest users in these regions have to check the HCV 5 availability.**

## IDENTIFICATION OF HCV 5

### PRELIMINARY ASSESSMENT

This assessment complies with *Annex 5* from the toolkit.

If the studying forests comply with the HCV5 requirements from *Annex 5*, then the toolkit users have to consult the local authority and local community representatives (religious, tribal or other informal leaders) according to HCV 5 presence. The forest managers have to receive the statement of local authority and informal leaders about the importance of forest for the local communities livelihood.

If there is potential existence of HCV 5 according to the *Annex 5* methodology and local authority confirms this also and informal leaders statements then forest managers/users are obliged to make the full assessment for the existing HCV 5 establishment.

The full assessment for the existing HCV 5 establishment is obligatory also when there are obvious conflicts between forest manager/user and local authority.

#### FULL ASSESSMENT

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

#### RECOMMENDATIONS AND 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*.

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### HCV 6. FOREST AREAS CRITICAL TO THE CONSERVATION OF CULTURAL VALUES AND TRADITIONS, RELIGIOUS AND ETHNICAL IDENTITIES.

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#### 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 can be a HCVF if it contains or provides values without which a local community would suffer a drastic cultural change or has no alternative. According to the Bulgarian normative basis around 40 000 sites of the country's cultural and historical heritage are monuments of culture. Part of them are located in forests or closely related with forest areas.

#### DEFINITION

**HCVF with HCV 6 in Bulgaria include all:**

- 1. Forests and lands from the forest fund in radius of 500 m around monasteries;**
- 2. Forests and lands from the forest fund in 100 m stripe around chapels, consecrated grounds, holy springs, identified according to *Annex 7* and consultations with local people;**
- 3. Forests and lands from the forest within the monuments of culture boundaries or in their guarded areas, regulated under the Monuments of Culture Act;**
- 4. Forests and lands from the forest in 100 m stripe around areas traditionally used for fairs, singing competitions and other activities, valuable for protection of cultural heritage and national traditions identified according to the list enclosed in *Annex 7*.**

#### IDENTIFICATION OF HCV 6

#### PRELIMINARY ASSESSMENT

Forest areas complying with the requirements of HCV 6 definition are identified after assessing whether managed/used forest areas or parts of them are in *Annex 7* list. The list includes protected sites regulated under the Monuments of Culture and Museums Act (MCMA) and the Forests Act. It was developed according to data from existing sociological researches and consultations with experts, as well as consultations with following organizations are made: Institute of Ethnography; Institute of Archaeology;

Holy Synod, Catholic Church, Head Office of the Mufti, Institute of History. Information from the list and map of Bulgarian monasteries is also used.

The list in *Annex 7* is not comprehensive – it has to be regularly updated therefore the toolkit users have to follow the steps below in order to identify the existence of HCV 6. To this end they also need to carry out consultations with local communities. The local community groups whose traditional cultural identity is related to the forest have to be identified. Their representatives have to be consulted about the existence of HCV 6 in the forest.

## FULL ASSESSMENT

Verifying whether forest areas are within the boundaries of monuments of culture or their guarded areas, regulated under the Monuments of Culture and Museums Act (MCMA). This can be done when the forest manager/ user submit an standard application, like the one in *Annex 8*, to the director of the National Monuments of Culture Museum. The application has to be together with an ownership document (notarial act) and a description of the site location. This information is charged according to Regulation of the Council of Ministers № 286/28.12.2000, published in State Gazette vol.2/2001. The application is followed by statistical verification in the National Science and Documentation Archive belongs to the National Monuments of Culture Museum (NMCM), under the regulation of Article 4, Paragraph 1 of the Monuments of Culture and Museums Act (State Gazette, vol. 29/1969) and Art. 13, Par. 1 and Art. 21, Par. 1, Point 3 from Regulation 3 of Ministry of Culture for the designation of immovable monuments of culture.

It is possible information for the status of a certain forest area according to HCV 6 to be available from the municipality, city council (Culture Department) or local museum (Museum of History, Museum of Ethnography), as well as from any other institution related to the Ministry of Culture. Whatever the source of information is, an official certificate should be issued by the authorized institution, which has to verify check up the information at the National Science and Documentation Archive.

Information can be available from local communities, NGOs or scientific institutions.

## RECOMMENDATIONS AND MANAGEMENT GUIDANCE FOR HCV 6

1. Activities decreasing the high conservation values of the forest shall not be implemented.
2. Management have to comply with the regimes of the monuments of culture, identified in their designation orders.
3. In case there are no official regimes, management have to comply with Forestry management plans, which are according the requirements of the Forests Act and the Monuments of Culture and Museums Act.

## RECOMMENDATIONS AND GUIDANCE FOR THE MONITORING OF HCV 6

1. Verification whether the HCVF maintains its critical importance has to be done, according to the definition of HCV 5 in a five-year period.
2. Annual verification of the regimes of cultural monuments, according to their orders.
3. Annual monitoring of the activities according to the Forestry Plans.

## ANNEX

### Annex 1- LIST OF ENDANGERED, THREATENED AND ENDEMIC SPECIES IN BULGARIA, INDICATORS FOR HIGH CONSERVATION VALUES IN FORESTS

#### A. Endemic, rare and endangered plant species

1. *Lycopodium complanatum* – rare
2. *Polypodium australe* – endangered
3. *Taxus baccata* – endangered
4. *Sesleria alba* – rare
5. *Melica altissima* – rare
6. *Colchicum diambolis* - rare Bulgarian endemic species, IUCN (R); meadows and dense forests; Yambol region
7. *Fritillaria pontica*– rare Bulgarian endemic species, IUCN (R); different forest types; Shumen, Targovishte, Sliven, Burgas regions.
8. *Fritillaria sibirnyi* – rare Balkan endemic species; light mixed forests; Plovdiv and Yambol regions
9. *Fritillaria drenovskyi* – rare Balkan endemic species; Bern Convention, IUCN (V); meadows in Beech and coniferous forests; Slavyanka and Southern Pirin Mountains
10. *Streptopus amplexifolius* – rare
11. *Goodyera repens* – rare
12. *Quercus mestensis* – rare Bulgarian endemic species; South of Belitza.
13. *Saponaria strandjensis* – rare Bulgarian endemic species; in very thin forests; Burgas and Kargjali regions
14. *Aquilegia vulgaris* – rare
15. *Sisymbrium polymorphum* – endangered

16. *Pyrus amygdalifolius subsp. bulgarica* – rare Bulgarian endemic species; in *Quercus cerris* and *Quercus fraineto* forests; Burgas region
17. *Chamaecytisus frivaldszkyanus* – rare Bulgarian endemic species; in thin Oak and Hornbeam forests; Pleven, Plovdiv, Lovech, Tarnovo, Haskovo and Stara Zagora regions.
18. *Chamaecytisus kovacevii* – rare Bulgarian endemic species, IUCN (R); in thin Oak and Hornbeam forests; Pleven, Rouse, Montana, Sofia and Stara Zagora regions.
19. *Chamaecytisus neicevii* – rare Bulgarian endemic species, IUCN (R); in thin Oak forests; Gabrovo, Pleven, Rouse, Montana, Tarnovo and Vratza regions.
20. *Medicago carstiensis subsp. Belasicae*- endangered Bulgarian endemic species; Belsiza, above Kolarovo village
21. *Vicia pisiformis* – rare
22. *Vicia dumetorum*– rare
23. *Lathyrus transsilvanicus*– endangered
24. *Lathyrus grandiflorus*– rare
25. *Trifolium physodes*– rare
26. *Ilex aquifolia*– rare
27. *Tilia rubra*– rare
28. *Circaea alpina*– rare
29. *Smyrniium rotundifolium*– rare
30. *Trinia ramosissima*– rare
31. *Heptatera triquetra*– rare Balkan endemic species; in light Oak forests; Sliven, Yambol and Burgas regions.
32. *Pyrola media*– rare
33. *Cyclamen coum*– rare, Bern Convention
34. *Galium bulgaricum*– rare Bulgarian endemic species; in mixed deciduous forests; Varna, Sliven, Shumen, Burgas and Kurgjali regions.
35. *Symphytum tauricum*– rare
36. *Trachystemon orientalis*– rare
37. *Trachystemon creticum*– endangered Balkan endemic species; in Beech forests; Kurdjali region.
38. *Stachys scardica*- rare Balkan endemic species; in thin Oak forests; Kuystendil region.
39. *Stachys balcanica*– rare Balkan endemic species; in thin Oak forests; Kuystendil and Plovdiv regions.
40. *Stachys serbica* - rare Balkan endemic species; in thin Oak forests; Kuystendil, Kurdjali and Yambol regions.
41. *Salvia forskaohlei* – rare
42. *Digitalis laevigata* – rare
43. *Veronica spicata subsp. velutina*– endangered Bulgarian endemic species; in thin mixed forests; Shumen, Dobrich and Varna regions.



**44. *Lathraea rhodopaea*** – rare Balkan endemic species; IUCN (R); in wetland forests; in Rhodope and Rila Mountains and in Plovdiv region.

**45. *Valeriana montana***– rare

**46. *Centaurea amplifolia***- endangered Balkan endemic species; in canopy Oak forests; Burgas (Strandja) and Yambol (Sakar) Regions.

**47. *Anthemis sancti-joannis***– rare Bulgarian endemic species; IUCN (R); in thin Beech, Spruce and mixed forests; the Rila, Slavyanka and Middle Balkan Mountains.

Map with the distribution in Bulgaria of each of these species has to be created. People using this guidance have to check if any of this species occurring in their managed forest and how does it look like.



## B. List of Endemic, Endangered and Threatened Animal Species

|    | Latin Name                   | English Name   | IUCN Red List     | Red Book | Threshold  | Area size   |
|----|------------------------------|--|-------------------|----------|--|---|
| 1  | <i>Ursus arctos</i>          | Brown bear   |                   | R        | Den presence, inhabited at least twice for the last 10 years | Mapped units within 200 m radius<br>- no activities                 |
| 2  | <i>Lutra lutra</i>           | Otter  | VU A2cde          | T        | Den presence   | 100 m from the den<br>- no activities                               |
| 3  | <i>Lynx lynx</i>             | Lynx   | NT ver 3.1 (2001) | E        | Species presence   | Section + the adjacent 5 to 10 sections with suitable habitats      |
| 4  | <i>Elaphe quatuorlineata</i> | Western four-lined snake   |                   | T        | Species presence   | Subsection + the adjacent 2 to 5 subsections with suitable habitats |
| 5  | <i>Phalacrocorax pygmeus</i> | Pygmy Cormorant  | LR/nt             | T        | Nesting of the species                                       | 200 m area  |
| 6  | <i>Plegadis falcinellus</i>  | Glossy Ibis  |                   | T        | Nesting of the species                                       | 200 m area  |
| 7  |                              | All other species of herons and big cormorant, stocks with more than 5 nests |                   |          | Nesting of the species                                       | 100 m area  |
| 8  | <i>Platalea leucorodia</i>   | Spoonbill  |                   | T        | Nesting of the species                                       | 200 m area  |
| 9  | <i>Ciconia nigra</i>         |  |                   | T        | Nesting of the species                                       | 100 m area  |
| 10 | <i>Aquila clanga</i>         |  | VU C1             | R        | Nesting of the species                                       | 500 m area  |
| 11 | <i>Aquila heliaca</i>        |  | VU C1             | T        | Nesting of the species                                       | 500 m area  |
| 12 | <i>Aegypius monachus</i>     |  | LR/nt             | E        | Nesting of the species                                       | 500 m area  |
| 13 | <i>Scolopax rusticola</i>    | Woodcock   |                   | T        | Nesting of the species                                       | Section + the adjacent 1 to 3 subsections with suitable habitats    |
| 14 | <i>Pandion haliaetus</i>     | Osprey   |                   |          | Area of occupation or nesting of the species                 | 500-700 m area  |
| 15 | <i>Milvus migrans</i>        | Black Kite   |                   |          | Area of occupation or nesting of the species                 | 500-700 m area  |
| 16 | <i>Haliaeetus albicilla</i>  | White tailed eagle   |                   |          | Area of occupation or nesting of the species                 | 1000 m area   |
| 17 | <i>Accipiter brevipes</i>    | Levant Sparrowhawk   |                   |          | Area of occupation or nesting of the species                 | 500-700 m area  |
| 18 | <i>Hieraetus pennatus</i>    | Booted Eagle   |                   |          | Area of occupation or nesting of the species                 | 500-700 m area  |

|    |                       |                         |  |  |  |                |
|----|-----------------------|-------------------------|--|--|--|----------------|
| 19 | Aquila pomarina       | Lesser Spotted Eagle    |  |  | Area of occupation or nesting of the species | 500-700 m area |
| 20 | Aquila chrysaetus     | golden eagle            |  |  | Area of occupation or nesting of the species | 1000 m area    |
| 21 | Circaetus gallicus    | Short-toed Eagle        |  |  | Area of occupation or nesting of the species | 500-700 m area |
| 22 | Falco cherrug         | Saker Falcon            |  |  | Area of occupation or nesting of the species | 500-700 m area |
| 23 | Falco vespertinus     | Red-footed Falcon       |  |  | Area of occupation or nesting of the species | 500-700 m area |
| 24 | Columba oenas         | Stock Dove              |  |  | Area of occupation or nesting of the species | 500-700 m area |
| 25 | Aegolius funereus     | Boreal Owl              |  |  | Area of occupation or nesting of the species | 500-700 m area |
| 26 | Glaucidium passerinum | Eurasian Pygmy Owl      |  |  | Area of occupation or nesting of the species | 500-700 m area |
| 27 | Strix uralensis       | Ural Owl                |  |  | Area of occupation or nesting of the species | 500-700 m area |
| 28 | Dendrocopos leucotos  | Белогръб кълвач         |  |  | Area of occupation or nesting of the species | 500-700 m area |
| 29 | Picoides tridactylus  | White-backed Woodpecker |  |  | Area of occupation or nesting of the species | 500-700 m area |
| 30 | Ficedula parva        | Red-breasted Flycatcher |  |  | Area of occupation or nesting of the species | 500-700 m area |

## Annex 2 – List for assessment of critical concentrations of species in Bulgaria

### **Sleeping sites:**

|                                 |   |
|---------------------------------|---|
| <b>Black vultures</b>           | more than 5 birds use the site at least 30 days per year, 500 m area from the sleeping sites    |
| <b>King eagles</b>              | more than 3 birds use the site at least 30 days per year, 300 m area from the sleeping sites    |
| <b>Pygmy cormorant</b>          | more than 15 birds use the site at least 30 days per year, 200 m area around the sleeping sites |
| <b>Egrets (all species)</b>     | more than 30 birds use the site at least 30 days per year, 200 m area around the sleeping sites |
| <b>Storks and birds of prey</b> | more than 100 birds use the site at least 15 days per year, 300 m area                          |

### **Bats colonies in woodlands:**

- 
- in rocks and caves more than 20 specimens, 100 m area around the sites

### **Others:**

Capercaillie (Tetrao urogallus) breeding place with 2-5 male birds, 300 m area  
Capercaillie breeding place with more than 5 males, 500 m area

Territories with concentration of more than 2 bears during feeding (without counting the one-year-old and two-year-old specimens), 500 m area

ANNEX 3 – LIST WITH THE HCV2 FOREST AREAS IN BULGARIA

The HCV 2 forests occupy territory defined in 8 big forest areas part of 13 Regional Forestry Boards (RFB) and 98 State Forestry Management Units (SFMU). The list with all this areas is given in Table 1.

Table 1

| <i>RFB</i>         | <i>SFMU</i>                       |
|--------------------|-----------------------------------|
| RFB Blagoevgrad    | SGBS "Dikchan" – Satovcha village |
| RFB Blagoevgrad    | SGBS "Razlog" - Razlog            |
| RFB Blagoevgrad    | SFMU Belitza                      |
| RFB Blagoevgrad    | SFMU Blagoevgrad                  |
| RFB Blagoevgrad    | SFMU Gotze Delchev                |
| RFB Blagoevgrad    | SFMU Dobrinishte                  |
| RFB Blagoevgrad    | SFMU Eleshnitsa                   |
| RFB Blagoevgrad    | SFMU Katuntzi                     |
| RFB Blagoevgrad    | SFMU Kresna                       |
| RFB Blagoevgrad    | SFMU Mesta                        |
| RFB Blagoevgrad    | SFMU Sandanski                    |
| RFB Blagoevgrad    | SFMU Simitli                      |
| RFB Blagoevgrad    | SFMU Tzaparevo                    |
| RFB Blagoevgrad    | SFMU Yakoruda                     |
| RFB Blagoevgrad    | NP Pirin                          |
| <i>RFB</i>         | <i>SFMU</i>                       |
| RFB Burgas         | SGBS "Nesebar" - Nesebar          |
| RFB Burgas         | SGBS "Gramatikovo"                |
| RFB Burgas         | SFMU Zvezdetz                     |
| RFB Burgas         | SFMU Kosti                        |
| RFB Burgas         | SFMU Malko Tarnovo                |
| RFB Burgas         | SFMU Staro Oriahovo               |
| RFB Burgas         | SFMU Tzarevo                      |
| <i>RFB</i>         | <i>SFMU</i>                       |
| RFB Varna          | SGBS "Sherba" – G. Chiflik        |
| RFB Varna          | SGBS Tervel                       |
| RFB Varna          | SFMU Smiadovo                     |
| RFB Varna          | SFMU Tzonevo                      |
| <i>RFB</i>         | <i>SFMU</i>                       |
| RFB Veliko Tarnovo | SGBS "Rositza" – Lagat area       |
| RFB Veliko Tarnovo | SFMU Buinovtzi                    |
| RFB Veliko Tarnovo | SFMU Veliko Tarnovo               |
| RFB Veliko Tarnovo | SFMU Gabrovo                      |
| RFB Veliko Tarnovo | SFMU Gorna Oriahovitza            |
| RFB Veliko Tarnovo | SFMU Plachkovtzi                  |
| <i>RFB</i>         | <i>SFMU</i>                       |
| RFB Kyustendil     | SFMU Dupnitsa                     |
| RFB Kyustendil     | SFMU Rilski manastir              |
| <i>RFB</i>         | <i>SFMU</i>                       |
| RFB Lovetch        | SGBS "Rusalka" - Apriltzi         |
| RFB Lovetch        | SFMU Borima                       |
| RFB Lovetch        | SFMU Lesidren                     |
| RFB Lovetch        | SFMU Ribaritsa                    |

|                |                                     |
|----------------|-------------------------------------|
| RFB Lovetch    | SFMU Teteven                        |
| RFB Lovetch    | SFMU Troyan                         |
| RFB Lovetch    | SFMU Cherni Vit                     |
| RFB Lovetch    | SFMU Cherni Osam                    |
| <i>RFB</i>     | <i>SFMU</i>                         |
| RFB Pazardzhik | SGBS "Beglika" – Beglika area       |
| RFB Pazardzhik | SGBS "Borovo" – V. Poljana area     |
| RFB Pazardzhik | SGBS "Rakitovo" - Rakitovo          |
| RFB Pazardzhik | SGBS "Alabak" - Velingrad           |
| RFB Pazardzhik | SFMU Batak                          |
| RFB Pazardzhik | SFMU Belovo                         |
| RFB Pazardzhik | SFMU Pazardzhik                     |
| RFB Pazardzhik | SFMU Panagyurishte                  |
| RFB Pazardzhik | SFMU Peshtera                       |
| RFB Pazardzhik | SFMU Selishte                       |
| RFB Pazardzhik | SFMU Chehlyovo                      |
| RFB Pazardzhik | SFMU Shiroka Poljana                |
| <i>RFB</i>     | <i>SFMU</i>                         |
| RFB Plovdiv    | SGBS "Kormisosh" - Laki             |
| RFB Plovdiv    | SGBS "Chekeritza" – Strjama village |
| RFB Plovdiv    | SFMU Asenovgrad                     |
| RFB Plovdiv    | SFMU Karlovo                        |
| RFB Plovdiv    | SFMU Klisura                        |
| RFB Plovdiv    | SFMU Krichim                        |
| RFB Plovdiv    | SFMU Rozino                         |
| RFB Plovdiv    | SFMU Hisar                          |
| <i>RFB</i>     | <i>SFMU</i>                         |
| RFB Rousse     | SGBS "Karakuz" - Dulovo             |
| RFB Rousse     | SGBS "Seslav" - Kubrat              |
| RFB Rousse     | SFMU Voden                          |
| RFB Rousse     | SFMU Isperih                        |
| RFB Rousse     | SFMU Razgrad                        |
| RFB Rousse     | SFMU Silistra                       |
| <i>RFB</i>     | <i>SFMU</i>                         |
| RFB Sliven     | SGBS "Kotel" - Kotel                |
| RFB Sliven     | SFMU Kipilovo                       |
| RFB Sliven     | SFMU Nova Zagora                    |
| RFB Sliven     | SFMU Sliven                         |
| RFB Sliven     | SFMU Stara Reka                     |
| RFB Sliven     | SFMU Tvarditza                      |
| RFB Sliven     | SFMU Ticha                          |
| <i>RFB</i>     | <i>SFMU</i>                         |
| RFB Smolyan    | SFMU Devin                          |
| RFB Smolyan    | SFMU Dospat                         |
| RFB Smolyan    | SFMU Mihalkovo                      |
| RFB Smolyan    | SFMU Rhodope                        |
| RFB Smolyan    | SFMU Pamporovo                      |
| RFB Smolyan    | SFMU Slaveino                       |
| RFB Smolyan    | SFMU Smolyan                        |
| RFB Smolyan    | SFMU Hvoyna                         |
| RFB Smolyan    | SFMU Chepelare                      |
| RFB Smolyan    | SFMU Shiroka laka                   |
| <i>RFB</i>     | <i>SFMU</i>                         |
| RFB Sofia      | SFMU "Aramlietza" – Elin Pelin      |
| RFB Sofia      | SFMU Borovetz                       |

|                  |                       |
|------------------|-----------------------|
| RFB Sofia        | SFMU Ihtiman          |
| RFB Sofia        | SFMU Kostenetz        |
| RFB Sofia        | SFMU Pirdop           |
| RFB Sofia        | SFMU Samokov          |
| <i>RFB</i>       | <i>SFMU</i>           |
| RFB Stara Zagora | SFMU Gurkovo          |
| RFB Stara Zagora | SFMU Kazanlak         |
| RFB Stara Zagora | SFMU Stara Zagora     |
| RFB Stara Zagora | SFMU Chirpan          |
| <i>RFB</i>       | <i>SFMU</i>           |
| RFB Shoumen      | SGBS "Veliki Preslav" |
| RFB Shoumen      | SFMU Varbitza         |
| RFB Shoumen      | SFMU Smyadovo         |

The distribution of the forest sections for each of the 8 territories by RFB and SFMU is given in Table 2.

Table 2



Annex 4 - List of threatened, endangered or endemic ecosystems in Bulgaria

| №   | EUNIS     | Name  | Brief Characteristics  |
|-----|-----------|---|--|
| 1.  | G1.111    | <b>Middle European [Salix alba] forests</b>                         | Riparian floodplain forests dominated mainly by White Willow ( <i>Salix alba</i> )   |
| 2.  | G1.131    | <b>Southern [Alnus glutinosa] galleries</b>                         | Pure or mixed gallery communities of Black Alder along rivers. At some points the galleries are interrupted by marsh herbaceous vegetation. Characteristic plant species: Black Alder ( <i>Alnus glutinosa</i> ), White Willow ( <i>Salix alba</i> ), Crack Willow ( <i>Salix fragilis</i> ).  |
| 3.  | G1.213(0) | <b>Flood-plain [Alnus] woods of slow rivers</b>                     | Monodominant Black Alder forests ( <i>Alnus glutinosa</i> ) in the lower reaches of rivers from the Black Sea-Mediterranean basin.   |
| 4.  | G1.213(1) | <b>Riverain [Alnus] woods of slow rivers</b>                        | Non-dense riparian communities of <i>Alnus glutinosa</i> and <i>Alnus incana</i> in the upper and middle reaches of rivers.  |
| 5.  | G1.222    | <b>Residual medio-European fluvial forests</b>                      | Wet lowland forests dominated by Common Oak ( <i>Quercus robur</i> ) or <i>Quercus pedunculiflora</i> .  |
| 6.  | G1.223    | <b>South-east European [Fraxinus] - [Quercus] - [Alnus] forests</b> | Floodplain forests consisting of Common Oak ( <i>Quercus robur</i> ), <i>Fraxinus angustifolia</i> subsp. <i>Oxycarpa</i> and Common Elm ( <i>Ulmus minor</i> ), with liana species – <i>Smilax excelsa</i> , <i>Periploca graeca</i> , <i>Clematis vitalba</i> , <i>Hedera helix</i> , <i>Tamus communis</i> , <i>Vitis vinifera</i> subsp. <i>sylvestris</i> .                         |
| 7.  | G1.31     | <b>Mediterranean riparian [Populus] forests</b>                     | Narrow riparian strips dominated by White and Black Poplar (or by both species), including Willows and other riparian species, occurring along Southern Bulgarian rivers with transitional Mediterranean climate. Characteristic plant species are: <i>Populus nigra</i> , <i>Populus alba</i> , <i>Salix alba</i>   |
| 8.  | G1.38(0)  | <b>[Platanus orientalis] woods</b>                                  | Forests near rivers and their tributaries in the Southern part of the country, dominated by Oriental Plane ( <i>Platanus orientalis</i> ). Characteristic plant species: <i>Platanus orientalis</i> , <i>Alnus glutinosa</i> , <i>Salix</i> spp., <i>Juglans regia</i> .   |
| 9.  | G1.38(1)  | <b>[Platanus orientalis]– [Castanea sativa] woods</b>               | <i>Platanus orientalis</i> forests on the Northern mountain slopes in Southern Bulgaria (Belassitza) along small rivers. Characteristic plant species: <i>Platanus orientalis</i> , <i>Castanea sativa</i> , <i>Fagus sylvatica</i> ssp. <i>moesiaca</i> , <i>Ostrya carpinifolia</i> , <i>Carpinus betulus</i> , <i>Acer hyrcanum</i> .   |
| 10. | G1.61     | <b>Medio-European acidophilous [Fagus] forests</b>                  | Beech-dominated forests on poor acid and humid soils. Characteristic plant species: Beech ( <i>Fagus sylvatica</i> ), Woodrush ( <i>Luzula luzuloides</i> ), Smallreed ( <i>Calamagrostis arundinacea</i> ), Bracken ( <i>Pteridium aquilinum</i> ).   |
| 11. | G1.63     | <b>Medio-European neutrophile [Fagus] forests</b>                   | Beech-dominated mesophile forests on neutral or close to the neutral soils. Their herbaceous story has a rich species composition. Characteristic plant species: European Beech ( <i>Fagus sylvatica</i> ), Woodruff-asperule ( <i>Galium odoratum</i> ), Wood Anemone ( <i>Anemone nemorosa</i> ), Yellow Archangel ( <i>Lamium galeobdolon</i> ), Sanicle ( <i>Sanicula europea</i> ). |
| 12. | G1.66     | <b>Medio-European limestone [Fagus] forests</b>                     | Beech forests on limestone terrains. Characteristic plant species: European Beech ( <i>Fagus sylvatica</i> ), Barberry ( <i>Berberis vulgaris</i> ), Common Privet ( <i>Ligustrum vulgare</i> ) and <i>Orchidacea</i> representatives.   |
| 13. | G1.69     | <b>Moesian [Fagus] forests</b>                                      | <i>Fagus sylvatica</i> ssp. <i>moesiaca</i> forests, at altitudes from 400 to 800 (1000) m, in temperate-continental and transitional-continental climatic conditions. Characteristic plant species: <i>Fagus sylvatica</i> ssp. <i>moesiaca</i> , <i>Carpinus betulus</i> , <i>Quercus dalechampii</i> .  |

|     |          |   |   |
|-----|----------|---|---|
| 14. | G1.6B    | <b>Mediterraneo-Moesian [Fagus] forests</b>                           | <i>Fagus sylvatica ssp. Moesiaca</i> forests, at altitudes from 400 to 800 (1000) m in the Southern parts of the country, in transitional-continental climatic conditions. Characteristic plant species: <i>Fagus sylvatica ssp. moesiaca</i> , <i>Pinus nigra</i> , <i>Ostrya carpinifolia</i> . |
| 15. | G1.6E(1) | <b>Pontic [Fagus] [Rhododendron] forests</b>                          | Pure and mixed forests of Oriental Beech ( <i>Fagus orientalis</i> ) and <i>Quercus polycarpa</i> with undergrowth of evergreen shrubs: <i>Rhododendron ponticum</i> <i>Laurocerasus officinalis</i> , <i>Ilex colchica</i> .   |
| 16. | G1.6E(2) | <b>Pontic [Fagus] [Vaccinium] forests</b>                             | Oriental Beech ( <i>Fagus orientalis</i> ) forests with Strandja Whortleberry ( <i>Vaccinium arctostaphylos</i> ) in the undergrowth.   |
| 17. | G1.6E(3) | <b>Pontic [Fagus] [Daphne] forests -</b>                              | Oriental Beech ( <i>Fagus orientalis</i> ) forests with <i>Daphne pontica</i> in the undergrowth.   |
| 18. | G1.6E(4) | <b>Pontic [Fagus] [Calluna] forests-</b>                              | Pure and mixed forests of Oriental Beech ( <i>Fagus orientalis</i> ) including <i>Quercus polycarpa</i> representatives and an undergrowth dominated by Common Heather ( <i>Calluna vulgaris</i> ).   |
| 19. | G1.732   | <b>Pannonian [Quercus pubescens] woods</b>                            | Dry open forests, mainly dominated by <i>Quercus pubescens</i> , mixed with other drought-resistant tree species.   |
| 20. | G1.76(0) | <b>Balkan-Anatolian thermophilous [Quercus] [Hypericum] forests -</b> | Pure and mixed forests of <i>Quercus polycarpa</i> and <i>Quercus frainetto</i> with Tutsan ( <i>Hypericum calycinum</i> ) in the undergrowth.  |
| 21. | G1.76(1) | <b>Balkan-Anatolian thermophilous [Quercus] [Erica] forests -</b>     | Forests of <i>Quercus polycarpa</i> and <i>Quercus frainetto</i> with Heath ( <i>Erica arborea</i> ) in the undergrowth.  |
| 22. | G1.76(2) | <b>Balkan-Anatolian thermophilous [Quercus] forests</b>               | Communities with <i>Quercus hartwissiana</i> .  |
| 23. | G1.7A1   | <b>Euro-Siberian steppe [Quercus] woods</b>                           | Forests dominated by Turkey Oak ( <i>Quercus cerris</i> ) on black earth soils in the plain areas of the Danube Hilly Plain.  |
| 24. | G1.7C1   | <b>[Ostrya carpinifolia] woods</b>                                    | Communities with <i>Ostrya carpinifolia</i> .   |
| 25. | G1.7C3   | <b>Thermophilous [Acer] woods</b>                                     | Forests dominated by <i>Acer monspessulanum</i> or with the participation of <i>Acer monspessulanum</i> . Characteristic plant species: <i>Acer monspessulanum</i> , <i>Fraxinus ornus</i> , <i>Quercus pubescens</i> , <i>Syringa vulgaris</i> , <i>Prunus mahaleb</i> .                         |
| 26. | G1.7C4   | <b>Thermophilous [Tilia] woods</b>                                    | Forests clearly dominated by Silver Lime ( <i>Tilia tomentosa</i> ).  |
| 27. | G1.7D1   | <b>Helleno-Balkan [Castanea sativa] forests</b>                       | Pure and mixed natural plantations of Sweet Chestnut ( <i>Castanea sativa</i> ).  |
| 28. | G1.7(E)  | <b>Aesculus hippocastanum forests</b>                                 | Forests dominated by Horse-chestnut ( <i>Aesculus hippocastanum</i> ).  |
| 29. | G1.7(F)  | <b>Cercis silisquastrum forests</b>                                   | Forests with Judas Tree ( <i>Cercis silisquastrum</i> ).  |
| 30. | G1.87    | <b>Medio-European acidophilous [Quercus] forests</b>                  | Forests dominated by <i>Quercus proroburooides</i> communities.   |
| 31. | G1.913   | <b>Hercynio-Alpine [Betula] woods</b>                                 | <i>Pure and mixed natural plantations of Betula pendula with the participation of Fagus sylvatica.</i>  |
| 32. | G1.A4    | <b>Ravine and slope woodland</b>                                      | <i>Mixed deciduous forests on steep and ravine areas. Characteristic plant species: Ash (Fraxinus excelsior), Sycamore (Acer pseudoplatanus), Small-leaved Lime (Tilia cordata), Large-leaved Lime (Tilia platyphyllos).</i>  |
| 33. | G3.16    | <b>Moesian [Abies alba] forests</b>                                   | <i>Monodominant forests of Silver Fir (Abies alba).</i>   |

|     |          |  |  |
|-----|----------|--|--|
| 34. | G3.17    | <b>Balkano-Pontic [Abies] forests</b>                        | <i>Mixed forests of European Beech (Fagus sylvatica) with the participation of Abies borisii-regis. Characteristic plant species: Abies borisii-regis.</i>                         |
| 35. | G3.1B    | <b>Alpine and Carpathian sub-alpine [Picea] forests</b>      | <i>Spruce forests near the high forest border. Characteristic plant species: Norway Spruce (Picea abies), Bilberry (Vaccinium myrtillus).</i>                                      |
| 36. | G3.1E1   | <b>South-eastern Moesian [Picea abies] forests</b>           | <i>Monodominant Spruce forests and forests dominated by Spruce in the Rhodopidi Complex (the Vitosha, Rila, Pirin and Rhodope Mountains).</i>                                      |
| 37. | G3.E3    | <b>Balkan [Pinus sylvestris] mire woods</b>                  | <i>Primary natural mixed plantations of Pinus sylvestris and Picea abies on peatlands.</i>   |
| 38. | G3.1E4   | <b>Balkan Range [Picea abies] forests</b>                    | <i>Monodominant Spruce forests and forests dominated by Spruce in the Western and Central Balkan Mountains.</i>  |
| 39. | G3.56(0) | <b>[Pinus pallasiana] and [Pinus banatica] forests</b>       | <i>Relict forests of Austrian Pine. Characteristic plant species: Austrian Pine (Pinus nigra ssp. pallasiana).</i>   |
| 40. | G3.56(1) | <b>Mixed Pinus nigra – Picea abies forests</b>               | <i>Natural mixed plantations of Pinus nigra and Picea abies.</i>   |
| 41. | G3.61    | <b>[Pinus leucodermis] forests</b>                           | <i>Natural xeromesophile pure and mixed plantations of Pinus leucodermis with the participation of Pinus mugo, Pinus nigra, Pinus peuce, Picea abies and Abies alba.</i>           |
| 42. | G3.62    | <b>[Pinus peuce] woods</b>                                   | <i>Natural pure and mixed plantations of Pinus peuce with the participation of Pinus migo, Pinus sylvestris, Pinus leucodermis, Picea abies and Abies alba.</i>                    |
| 43. | G3.93    | <b>Greek [Juniperus excelsa] woods</b>                       | <i>Thin Mediterranean forests dominated by Juniper Tree (Juniperus excelsa).</i>   |
| 44. | G4.6     | <b>Mixed [Abies] - [Picea] - [Fagus] woodland</b>            | <i>Mixed deciduous-coniferous forests with the obligatory participation of European Beech (Fagus sylvatica) and/or Silver Fir (Abies alba) and/or Norway Spruce (Picea abies).</i> |
| 45. | G4.8(1)  | <b>Mixed [Pinus peuce] [Fagus] forests</b>                   | <i>Natural mixed plantations of Pinus peuce, Fagus sylvatica, Picea abies and Pinus sylvestris.</i>  |
| 46. | G4.8(2)  | <b>Mixed [Pinus leucodermis] [Fagus] forests</b>             | <i>Natural mixed plantations of Pinus leucodermis and Fagus sylvatica.</i>   |
| 47. | G4.8(3)  | <b>Mixed non-riverine deciduous and coniferous woodlands</b> | <i>Communities with Austrian Pine (Pinus nigra) and Hornbeam (Ostrya carpinifolia).</i>  |

## Annex 4A – Management characteristics and recommended forest management activities for ecosystems in Annex 4 (Priority natural forest habitats with national and European importance)

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.

### 1. 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 it is possible, normal water supply regimes, which will prevent the spread of exotic species (amorphata, American ash-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.

### 2. 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 plantations. 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 plantations, 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 **семенни**. 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. Prohibition of decreases areas for infrastructure and other projects purposes.

### 3. Natural forests dominated or sub-dominated by different oak species

Clear cuttings have 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 plantations. 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 **семенни**. 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. Activities for improvement of forest protection have to be taken. It is not recommended decreasing of areas for purposes of infrastructure and other project, increasing the arable lands and etc.

#### 4. Natural pure and mixed natural plantations of *Betula pendula* with the participation of .....

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 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 plantations but not to interrupt their natural dynamic, i.e. not to keep the birch in places where it has no competitive priority.

#### 5. *Tilia tomentosa* natural forests

In plantations in good condition have to extend cuttings and to implement appropriate cultivation activities. Strict control has to be taken during the gathering of blossoms for economic purpose and prevention of cutting branches and whole trees for this purpose.

#### 6. Forests with *Abies alba* and *Abies borisii-regis*

Fir-tree is appropriate species for implementation of selection management and cuttings with long recovery period. Implementation of gradual cutting has to be restricted with exception where purpose is habitat richness. Cultivation activities have to be made on time in order to improve sustainability of young plantations. 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 plantations “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.

#### 7. 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.

#### 8. Monodominates and forests with domination of spruce in Vitosha, Rila, Pirin and Rodops

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 plantations. 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 plantations 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.

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.

#### 9. *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.

### **10. Mixed spruce and Pinus nigra forests**

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

### **11. Pinus heldreichii forests**

Main loggings are prohibited.

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

### **12. 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 plantations. 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.

### **13. 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 habitats area, parts of protected territory. Habitat management plan has to be developed.

### **14. Mixed deciduous-coniferous forests**

Implementation of forestry activities has to be done in order to protect mixed pattern of the plantations. Cultivation activities have to be made on time in order to improve sustainability of young plantations. Different growing phases of the plantations and different tree species have to be presented during the planning process and forestry activities. Special attention has to be taken to protection of the plantations 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.

### **15. Old growth forests**

Old growth forests (OGF) with their specific structure and functionality are habitat for complex of species from different ecological and taxonomy groups. Due to lack of knowledge about OGF it is difficult to define how much of the surveyed species are connected only to these forests but definitely can be concluded that many of the species found in OGF optimal living conditions. Even more during the comparison between OGF and younger forests essential differences in the biodiversity are found which is an indicator for the unique of these systems.

At least 2% from the territory of the FMU 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 forest plantations when necessary. It is recommended that the OGF have relatively an 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.

The natural dynamic of the defined plantations has to be kept in order to reach the characteristics of the OGF. The forestry activities and loggings in their territories are not permitted except during huge natural damages (wind throw and **катамитети** occupying over 50% of the OGF area). Other exceptions of the rule are the forest plantations. They require forestry activities to provide their sustainability and the process of structural differentiation.

Approximately 160 to 230 years are needed for forest with characteristics of OGF to be formed. The transformation from mature forests to OGF is gradual and its duration depends on forest composition (the species reach mature for different periods of time), habitat conditions (the period is shorter in good

habitat conditions compared to bad conditions) and primary structure of the plantations (in homogeneous structure is slower than the heterogeneous).

## **ANNEX 5 – METHODOLOGY FOR IDENTIFICATION OF HCV 5. PRELIMINARY ASSESSMENT**

This HCV differ from biological and environmental values in participation of local communities into 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 assessment, 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 settlements 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 which existence the forest is with 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 Ministry of Regional Development and Public Works Departments;
- Agriculture and Forests Directorates at the District authorities.



Annex 5A – List with Undeveloped Rural Areas in Bulgaria, defined under Regulation 105/02.06.1999 of MRDPW

1. Straldga (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 Dobrich), 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 – 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 with crucial importance to them. Therefore different methods are used depend on the socio-economic context and the specific need. Sometimes the forest manager will need guidance from social scientists that specialize in the region. However consultations with the community itself are always helpful, like 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 – *Annex5A*, 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 1 – Identification of sub-groups within one village community

| No | Ethnic group/origin | Main sources of livelihood | Other key characteristics (i.e. date of arrival, location of dwelling, etc.) | 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 dependency, 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 2 - Satisfaction of Basic Needs**

| Village:.....                                  |                                     | Sub-Group (based on table 1):..... |   |                |     |   | Explanations, notes |
|--|-------------------------------------|------------------------------------|---|----------------|-----|---|---------------------|
| 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 differentiated) |                     |
|  | FMU                                 | Other                              |   |                |     |   |                     |
| Wood:  |                                     |                                    |   |                |     |   |                     |
| - Firewood                                     |                                     |                                    |   |                |     |   |                     |
| - For other everyday needs                     |                                     |                                    |   |                |     |   |                     |
| - For materials (construction, farming, tools) |                                     |                                    |   |                |     |   |                     |
| Food for animal:                               |                                     |                                    |   |                |     |   |                     |
| - Pasture                                      |                                     |                                    |   |                |     |   |                     |
| - Fodder (hay, leaf mass)                      |                                     |                                    |   |                |     |   |                     |
| Non-timber products:                           |                                     |                                    |   |                |     |   |                     |
| - Mushrooms                                    |                                     |                                    |   |                |     |   |                     |
| - Medicinal plants                             |                                     |                                    |   |                |     |   |                     |
| - Fruits                                       |                                     |                                    |   |                |     |   |                     |
| - Resins                                       |                                     |                                    |   |                |     |   |                     |
| - Snails, other uses of animals, hunting       |                                     |                                    |   |                |     |   |                     |
| Drinking and other daily needs water           |                                     |                                    |   |                |     |   |                     |
| 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 Forest Management Unit under evaluation, then everything they derive from the forest is likely to be from the FMU (in case it is large enough). If the community is near the border of the FMU or often moves beyond its borders, then it might be necessary to clarify what percentage of their resources they draw from the FMU 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 interviews 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 “non-existent” (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 dependant 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 3 - Identifying fundamental forest resources**

| Village: XXX.....  | Sub-Group: (based on table 1) 2  |
|--|--|
| <b>Forest resource (e.g. firewood, wood for construction, hay), based on table 2</b>   | <b>Ranking of the forest’s importance in meeting this need (2 to 4), based on table 2</b>  |
| 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:<br>- All year long every year,<br>- In sufficient quantities to replace the forest resources,<br>- 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 land needed to start new agricultural activities)?      | 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? | <p>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.</p> <p>On the contrary, if the community is actively protecting the forest resources, then it is a HCVF.</p> |
| 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?  |   |
| Are all the community members concerned about these trends or just a minority?   |   |

**IMPORTANT:** if the forest is fundamental for meeting even only one of the basic needs mentioned in table 2, 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 4 - Identifying sustainable forest uses compatible with other HCVs**

|  |  |
|--|--|
| <b>Village: XXX.....</b>   | <b>Sub-Group: (based on table 1) 2</b>   |
| <b>Forest resource (for example firewood, wood for construction, drinking water, etc.), based on table 2</b> | <b>Importance of the forest for meeting the need (from 2 to 4), based on table 2</b> |

|  |   |
|--|---|
| 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.<br>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 more rare, timber sources farther from the village...)?<br><br>Is this change due to external parties, or to the activities of the community itself (for example increased levels of extraction, conversion of the forest...)?<br><br>For how long do they think they can sustain present levels before the resource is exhausted? | 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?<br><br>Are there some rules that are followed by the community to regulate the use of this resource?<br><br>Are the villagers ready to introduce such rules, and/or enforce old/existing ones?  | 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 example 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 which management have to be coordinated with particular FMU.
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 – List of forest areas critical to the conservation of cultural values and traditions, religious and ethnical identities

**Holy places for Christians and Muslims in Bulgaria, situated in/or adjacent to forests**

**Orthodox monasteries**

Stavropigialni

1. Bachkovski “Uspenie Bogorodichno”(with aiazmo<sup>1</sup> and chapels<sup>2</sup> outside the monastery)
2. Rilski”St.Ivan Rilski””(with aiazmo<sup>3</sup> and ..... outside the monastery)
3. Troianski ”Uspenie Bogorodichno”

Vidinska eparchy:

4. Albutinski monastery cut in the rock – village Rabovo (XIII century)
5. Brusarski “St.Arhangel Mihail”
6. Dobridolski”Sv. Troitza”(aiazmo)
7. Izvorski“Uspenie Bogorodichno” (aiazmo)
8. Klisurski monastery “St.Kiril and Metodi”
9. Chiprovski”St. Ivan Rilski”
10. Rakovishki”Sv Troitza”
11. Lopushanski”St. Joan Predtecha”

Vrachanska eparchy:

12. Dolnobeshovishki “St.Arhangel Michail”
13. Matnishki”St. Nikolai”
14. Cherepishki “Uspenie Bogorodichno”
15. Strupezki”St.Pr.Ilia”
16. Bistretzki”St.Ivan Rilski”(Kasinez)

Lovchanska eparchy:

17. Botevgradski”Rojdestvo Bogorodichno”
18. Vracheshki”St.George Pobedonosetz”
19. Glogenski”St.George”
20. Etropolski”Sv Troitza”
21. Praveshki”St.Teodor Tiron”
22. Tetevenski”St.Pr.Ilia”
23. Karlukovski”Sv Bogoroditza”
24. Chekotinski”St Archangel Michail”
25. Zlatishki”St.Vzanesenie Gospodne”
26. Novoseski”Sv Bogoroditza”
27. Skravenski”Sv Preobragenie”

Velikotarnovska eparchy:

28. Batoshevski”Sv Bogoroditza”
29. Sokolovski”Uspenie Bogorodichno”
30. Drianovski”St.Ah. Michail”
31. Kilifarevski”Sv.Bogoroditza”
32. Preobragenski”Preobragenie Gospodne”
33. Patriarsheski”Sv. Troiza”
34. Liaskovski”St Petar&Pavel”

Dorostolo-Chervenska eparchy:

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<sup>1</sup> *aiazmo* (gr..) - holy (healing) spring. One or a few trees and shrubs near aiazmo are honored as places for “leaving the pain”.

<sup>2</sup> One or group of trees near the *chapels* is honored as places for blood sacrifice during the patron saint’s day or private occasion for sacrifice. These trees are holy and area around is sanctity.

35. Ivanovski churches and monasteries cut in the rock (natural reserve, cultural site with global importance, protected by UNESCO)
36. Karan Varbovka villages -"Sv Petka" (with aiazmo in the yard)

Varnensko-Prešovska eparchy:

37. Aladga monastery
38. Prešovski monastery "St Kiril&Metody"

Plovdivska eparchy:

39. Batkunski "St Peter&Pavel"(village Patalenitza)
40. Gorno vodeski "St Kiril&Iulita"
41. Muldavski "St Petka Muldavska"
42. Monastery in "Sv Troitza" on Krastova gora
43. Sopotski "Sv Bogoroditza"

Starozagorska eparchy:

44. Magligki"St Nikolai Mirikliiski"
45. Chirpanski"St Atanasii Veliki"

Sofiiska eparchy:

46. Alinski "St Spas"
47. Batulia "St Nikola"
48. Bistrishki "St Petka"
49. Bilinski "St Archangel Michail"
50. Boboshevski "St Dimitar"
51. Bukurovski "St George Pobedonosetz"
52. Mislovishki (Velinovski) "Sv Bogoroditza"
53. Germanski "St Ivan Rilski"
54. Giginski "St Kozma&Damian"
55. Goleshki "St Nikolai Letni"
56. Gornovasilishki "Sv Vaznesenie"
57. Dragalevski "Sv Bogoroditza"
58. Divotinski "Sv Troitza"
59. Dolnolozenski "St Spas"
60. Dolnopasarelski "St Peter&Pavel"
61. Eleshnishki "Sv Bogoroditza"
62. Zemenski "St Ioan Bogoslov"
63. Gablianski "St Ioan Predtecha"
64. Iskreški "Sv Bogoroditza"
65. Kokalianski "St Archangel Michail"
66. Kremikovski "St George"
67. Kurilovski "St Ivan Rilski"
68. Leva reka "Sv 40 machenizi"
69. Odranitza "St Petar&Pavel"
70. Osenovlashki "Sv Bogoroditza"(Sedemte prestola)
71. Peshterski "St Nikola"
72. Razboishki "Sv Bogoroditza"
73. Radiboshki "Sv Troitza"
74. Seslavski "St Nikolai"
75. Transki "St Arch Michail"
76. Shumski "St Arch Michail"

Nevokopska eparchy

77. Gornobreznishki "St Prorok Iliia"
78. Gozedelchevski "Givopriemni iztochnik" (with aiazmo)
79. Rogenski "Rogdestvo Bogorodichno"
80. Troskovski "St Archangel Michail"

81. Hadgidimovski “St George Pobedonosetz”

MUSLIMS MONUMENTS

1. Hamlet Teketo, Haskovsko – teke<sup>3</sup> with tiurbe<sup>4</sup>
2. Bivoliane, Haskovsko – tiurbe na Elmal baba
3. Dambala site, Momchilgradsko – 3 tiurbet and healing spring
4. Zvezdelina, Momchilgradsko – tiurbe on Siurmeli baba
5. Hamlet Gasak, Momchilgradsko – tiurbe on Kazer baba
6. Hamlet Postnik, village Nanovitza, Momchilgradsko – tiurbe on Ahat baba
7. Podkova, Momchilgradsko – mosque of seven virgins (cemetery forest)
8. Dagdovnik, Krumovgarsko – tiurbe on Iamur baba
9. Nova Zagora – tiurbe on Kademli baba
10. Balchik – tiurbe on An Iazal baba
11. Isperih – tiurbe on Demir baba

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<sup>3</sup> teke – monastery

<sup>4</sup> tiurbe – tomb

Annex 8 – Application for assessment the statute of sites according the Monuments of Culture and Museums Act (MCMA)

TO  
DIRECTOR OF NMCM  
HERE

APPLICATION

From .....  
/name, father's name, surname/

address .....

phone number: .....

Dear Mr. Director,

Моля да ми бъде издадено удостоверение за статута на обект

.....

Situated in district....., square. ....

bul./street. ....

In town/village. ...., Municipality ....., district

.....

Enclose document for ownership .....

Place....., date.....

Respectfully yours:

Annex 9 – Scientific and research organisations, Responsible Bodies, Forest and Conservation Experts