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Government of the Republic of Armenia**

**On approval of
the criteria for identification of high conservation value forests
in the Republic of Armenia**

1. Approve the criteria for identification of high conservation value forests in the Republic of Armenia according to the Annex.

Prime Minister of the Republic of Armenia

K.Karapetyan

Criteria for identification of high conservation value forests in the Republic of Armenia

I. Introduction

1. High conservation value forests (HCVFs) are the forests needed for the existence of human beings and maintenance of the biosphere of the Earth. The main role of HCVFs is linked to their ecological, socio-economic as well as biodiversity values.

2. The HCVFs are based on the principle that if a forest area has international or national conservation values, then additional measures should be taken during the forest use to maintain these values and the state of the forest.

3. Development and implementation of measures aimed at improvement of the state of forests for production purposes is not sufficient for conservation of forest biodiversity. Forest management plans should consider forests with high conservation values as well as economically valuable and “mature” forests, which ensure respective conditions for survival of numerous representatives of forest biodiversity. In this respect, it is necessary to revise forest management plans as well as consider the presence of HCVFs when establishing new specially protected nature areas (SPNAs).

II. Classification of HCVFs

4. The identification of HCVFs should consider the presence of the most vulnerable biodiversity, rare and threatened species and development and implementation of special protection measures.

5. The HCVFs in the Republic of Armenia can be classified as follows:

- 1) **Type 1.** Forest areas with globally, regionally or nationally significant biodiversity values.
- 2) **Type 2.** Relatively intact large forest areas close to their natural state.
- 3) **Type 3.** Forest areas, which contain rare, threatened or endangered ecosystems.
- 4) **Type 4.** Forest areas that provide special protection services.
- 5) **Type 5.** Forest areas fundamental to meeting basic needs of local communities.

III. Criteria for identification of HCVEs

6. The criteria for identification of Type 1 of HCVEs are as follows:

1) Forest areas in state reserves and reserve zones of national parks, which are the safe habitats for numerous valuable biodiversity species. In order to identify high conservation values in state sanctuaries, natural monuments and other zones of national parks (for example, in forests of recreational zone) it is necessary to conduct comprehensive assessments to identify their existing ecological and social values.

2) Forest areas with the size of at least 10 ha with presence of at least 5 species of plants and animals belonging to the categories Critically Endangered and Endangered as defined by the Red Book of the Republic of Armenia. As the mentioned species are numerous and their identification in the field is often rather difficult, it can be sufficient to consider the presence of at least 3 flagship species, which are easy to identify and recognize in the field. These species are presented in List 1.

List 1. Flagship plant and animal species registered in the Red Book of the Republic of Armenia under the categories of Critically Endangered and Endangered

Plants
<i>Lycopodium selago</i>
<i>Ophioglossum vulgatum</i>
<i>Nectaroscordum tripedale</i>
<i>Galanthus alpinus</i>
<i>Galanthus lagodechianus</i>
<i>Sternbergia fischeriana</i>
<i>Aristolochia iberica</i>
<i>Asphodeline lutea</i>
<i>Tomanthea daralaghezica</i>
<i>Pachyphragma macrophyllum</i>
<i>Coronaria coriacea</i>
<i>Colchicum goharae</i>
<i>Colchicum umbrosum</i>
<i>Corylus colurna</i>
<i>Castanea sativa</i>
<i>Corydalis marschalliana</i>
<i>Geranium albanum.</i>
<i>Muscari pallens</i>
<i>Scilla mischtschenkoana</i>
<i>Iris atropatana</i>
<i>Iris grossheimii</i>
<i>Iris pseudocaucasica</i>
<i>Dracocephalum austriacum</i>

<i>Fritillaria collina</i>
<i>Tulipa confusa</i>
<i>Tulipa florenskyi</i>
<i>Tulipa sosnovskyi</i>
<i>Tulipa sylvestris</i>
<i>Epipogium aphyllum</i>
<i>Listera ovata</i>
<i>Orchis stevenii</i>
<i>Orchis tridentata</i>
<i>Steveniella satyrioides</i>
<i>Platanus orientalis</i>
<i>Primula vulgaris subsp. komarovii</i>
<i>Primula vulgaris subsp. woronowii</i>
<i>Anemone ranunculoides</i>
Invertebrates
<i>Columella columella</i>
<i>Euxina akramowskii</i>
<i>Coenagrion armatum</i>
<i>Aeshna cyanea</i>
<i>Aeshna serrata</i>
<i>Leucorrhinia pectoralis</i>
<i>Cardiophorus somcheticus</i>
<i>Sphaerobothris aghababiani</i>
<i>Mylabris sedilithorax</i>
<i>Armenohelops armeniacus</i>
<i>Entomogonus amandanus</i>
<i>Cortodera kaphanica</i>
<i>Rosalia alpina</i>
<i>Asias aghababiani</i>
<i>Agrodiaetus damonides</i>
<i>Agrodiaetus neglectus</i>
Vertebrates
<i>Ommatotriton ophryticus</i>
<i>Parvilacerta parva</i>
<i>Darevskia dahli</i>
<i>Darevskia rostombekovi</i>
<i>Aegipus monachus</i>
<i>Pyrrhocorax graculus</i>
<i>Neomys schelkovnikovi</i>
<i>Sicista armenica</i>
<i>Panthera pardus</i>

3) Forest areas with the size of at least 10 ha with presence of at least 5 species of plants and animals, which are the endemics of Armenia.

4) Forest landscapes significant for existence and natural development of fauna species: nesting and wintering areas, resting areas during migrations, feeding and watering areas, migration routes. It is necessary to consider forest areas important for seasonal concentrations and movement (including migration routes) of fauna species registered in the Red Book of the Republic of Armenia (irrespective of the category), where at least one such species is present (for example, Caucasian black grouse, bezoar goat, bats, etc).

7. The criteria for identification of Type 2 of HCVPs are as follows:

1) Intact (relatively not affected) and pristine forest areas, where viable populations of most or all naturally occurring species of plants and animals exist. A forest area can be identified as HCVP 2 if it meets all of the following criteria:

- a) Forests with the area of at least 300 ha;
- b) Forest areas not used for timber extraction during the last 50 years;
- c) Maturing, mature and overmature forests;
- d) Forests with canopy closure 06 and more;
- e) Forests with fragmentation less than 10%;
- f) Forest areas without forest cultures.

8. The criteria for identification of Type 3 of HCVPs are as follows:

1) The presence of globally, regionally or nationally rare and/or unique forest ecosystems, which are being quickly reduced due to severe fragmentation and anthropogenic impact. These forests include 17 rare forest habitats of plants and animals (List 2), riverine forests and forest belts with the width of 200 m at the upper timberline. The minimum size of such forest areas should be at least 10 ha. If the size of selected habitat (ecosystem) is less than 10 ha, then the necessary size can be reached with consideration of a buffer zone to ensure satisfactory conditions for natural development of populations.

List 2. Rare forest habitats of Armenia

- 1 Irano-Anatolian mixed riverine forests
- 2 Plane grove in Tsav River valley
- 3 Riverine forests with *Populus euphratica* dominance
- 4 Aspen groves of North Armenia
- 5 Lime woodlands
- 6 Oak-hornbeam-hazel forests
- 7 Ponto-Caucasian Scots pine forests
- 8 Grecian juniper (*Juniperus excelsa*) woods
- 9 Stinking juniper (*Juniperus foetidissima*) woods
- 10 Yew groves of Armenia
- 11 Mixed forests of *Taxus baccata* and *Fagus orientalis*
- 12 *Rhododendron caucasicum* heaths in Armenia
- 13 *Juniperus sabina* scrubs

- 14 Sub-alpine crook stem forests
- 15 Pear open arid forests
- 16 Pomegranate open arid forests
- 17 Tamarisk tickets in Armenia

9. The criteria for identification of Type 4 of HCVPs are as follows:

1) Forest areas with special water-protection significance, which ensure continuous supply of clean water for household, industrial and agricultural needs. Forest areas can be identified as type 4 of HCVPs if they meet one of the following criteria:

- a) Forests prevent loss of drinking water from the main source of water for local population;
- b) Forests protect adjacent settlements, agricultural lands and infrastructure from flood and drought;
- c) Forests protect water resources necessary for various forms of water use (including household, agricultural and industrial needs, hydropower and others) from massive irreversible losses;
- d) Forests ensure stability of riparian areas and have crucial role to control and prevent floods.

If a forest area meets one of the above-mentioned criteria, then the following thresholds should be used for identification of type 4 of HCVPs: forest areas with the width of 200 m along the rivers and streams with the length of more than 5 km; forest areas with the width of 100 m along the rivers and streams with the length of 3-5 km; forest areas within the radius of 300 m around the main source of drinking water for settlements; forest areas within the radius of 200 m around water reservoirs; and forest areas within the radius of 100 m around water springs.

2) Forest areas with special soil-protection significance, which prevent soil erosion, landslides, avalanches and others. Forest areas can be identified as type 4 of HCVPs if they meet one of the following criteria:

- a) Forests located on the slopes with inclination of more than 30°;
- b) Forests with the width of 200 m located nearby settlements on the slopes with high risk of avalanches, with canopy closure 06 and more and minimal forest area of 10 ha.

10. The criteria for identification of Type 5 of HCVPs are as follows:

- 1) Forest adjacent to a community without gas supply or a community with gas supply, but low solvency of population.
- 2) Forest adjacent to a community, which has no main road connection to large settlements and temporarily becomes completely isolated from other settlements during certain seasons in the year due to natural unfavorable conditions.
- 3) Forest adjacent to a community, where at least 40% of the minimum basket of population comes from use of forest resources.

If a community meets at least one of the above criteria, then the forest area surrounding the community within the radius of 5 km shall be considered type 5 of HCVPs.

IV. Process of identification of HCVPs

11. The following steps should be considered in the process of identification of HCVPs:

1) Preliminary assessment of a forest area with use of existing data and identification of potential HCVF areas;

2) Comprehensive field assessment of the forest area with compilation of data from multi-sectoral surveys (identification of real values such as types of vegetation, concentration of species, ecosystem services and others).

12. Identification of HCVFs should be done during development of management plans for SPNAs and forest enterprises. It should be an integral part of the management plans to describe the types of HCVFs, their size and boundaries (mapping materials), threats and conservation/maintenance measures.

V. Management and monitoring of HCVFs

13. Management of HCVFs in SPNAs and forest enterprises is the responsibility of the entities vested with their management function according to the Republic of Armenia legislation.

14. Monitoring of HCVFs should be done according to special developed monitoring programs (protocols) to ensure their sustainable management.

15. The monitoring programs should include specific indicators defining the status of a given forest area (according to the type and values of HCVFs), methodological aspects (data collection methods: description of areas, terms, frequency of observations, data processing and storage) as well as the structures or subjects responsible for monitoring of the given HCVF.