

EUROPE / NORTH AMERICA

HYRCANIAN FORESTS

AZERBAIJAN / IRAN (ISLAMIC REPUBLIC OF)



WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION

HYRCANIAN FORESTS (AZERBAIJAN / IRAN (ISLAMIC REPUBLIC OF)) – ID N° 1584bis

IUCN RECOMMENDATION TO WORLD HERITAGE COMMITTEE: To approve as an extension two of five nominated component parts under natural criterion (ix): Dangyaband and İstisuchay Valley (Azerbaijan).

Key paragraphs of Operational Guidelines:

Paragraph 77: Nominated property includes component parts that meet World Heritage criteria, however several component parts do not.

Paragraph 78: Nominated property includes component parts that meet integrity, protection and management requirements, however several component parts do not.

Background note: In 2005, the Republic of Azerbaijan (hereinafter referred to as “Azerbaijan”) nominated the entire territory of the Hirkan National Park (21,435 ha; no buffer zone) to be inscribed on the World Heritage List, under all four natural criteria and under the name “Hirkan Forests of Azerbaijan.” The World Heritage Committee deferred the nomination “to allow the State Party to consider options for renominating the property as part of a transnational serial property with other Hirkanian forest areas in Iran” (Decision 30 COM 8B.24).

In 2019 the Committee inscribed “Hyrcanian Forests” (Islamic Republic of Iran – hereinafter referred to as Iran) as a serial site of 15 components under criterion (ix). Decision 43 COM 8B.4 took “note of the potential for this property to also meet criterion (x)” and the Committee recommended the State Party “to undertake significant further work to complete species inventories and confirm species composition and population conservation status within each of the components, and to consider submitting a re-nomination of the property if the further studies confirm the relevant values are sufficient to meet criterion (x).” Decision 43 COM 8B.4 also encouraged the two relevant States Parties “to consider options for further serial and transboundary extension of the property to include other areas in Azerbaijan of internationally significant conservation value...” The Committee’s attention is also drawn to IUCN’s previous evaluations of 2006 and 2017 (WHC-06/30.COM/INF.8B2; WHC-19/43.COM/INF.8B2) which contain relevant analyses.

1. DOCUMENTATION

a) Date nomination received by IUCN: February 2021

b) Additional information officially requested from and provided by the States Parties: Following the session of the IUCN World Heritage Panel, a progress report was sent to the States Parties on 17 December 2021. This letter advised on the status of the evaluation process and requested supplementary information on species inventories, species composition and population status; commitments of the States Parties to transnational management; rights and free, prior and informed consent of communities within the nominated area; a map of component parts in relation to boundaries of Hirkan National Park; and finally, if and how the two nominated component parts in Iran respond to the expectations of criterion (ix) given the scale of recent changes which impact integrity. The supplementary information was provided by the States Parties on 28 February 2022.

c) Additional literature consulted: IUCN’s previous evaluations consulted a wide array of relevant reference material for the biology, ecology, protection and management as well as the comparative values of the

nominated property. Comprehensive reference lists were compiled within IUCN’s previous evaluations which are available as referenced above. Further references included: Breitenmoser, U., Askerov, E., Soofi, M., Breitenmoser-Würsten, C., Heidelberg, A., Karen, M. and N. Zazanashvili (2017). Short Communication: Transboundary leopard conservation in the Lesser Caucasus and the Alborz Range. *Cat News*, 65, ISSN 1027-2992; Critical Ecosystem Partnership Fund (2003). *Caucasus Biodiversity Hotspot. Ecosystem Profile*; Ghomi, A., et al. (2020). Prioritizing of the Hyrcanian Proposed Sites for Inscription on the UNESCO’s World Heritage List by use of Decision Making Methods. *Ecology of Iranian Forest* 8, 16, pp.90-102; Maharramova, E., Safarov, H., Kozlowski, G., Borsch, T., L. Muller (2015). Analysis of nuclear microsatellites reveals limited differentiation between Colchic and Hyrcanian populations of the wind-pollinated relic tree *Zelkova carpinifolia* (Ulmaceae). *American Journal of Botany* 102, pp.119-128; Nakhutsrishvili, G., Zazanashvili, N., Batsatsashvili, K., C. Mancheno (2015). Colchic and Hyrcanian forests of the Caucasus: Similarities, differences and conservation status. *Flora Mediterranea*. 25, pp.185-192. 10.7320/FIMedit25SI.185; Noroozi, J., et al. (2019).

Hotspots of vascular plant endemism in a global biodiversity hotspot in Southwest Asia suffer from significant conservation gaps. *Biological Conservation* 237, pp. 299-307, 10.1016/j.biocon.2019.07.005; Ramezani, E., Mrotzek, A., Mohadjer, M.R.M., Kakroodi, A.A., Kroonenberg, S.B. and H. Joosten (2016). Between the mountains and the sea: Late Holocene Caspian Sea level fluctuations and vegetation history of the lowland forests of northern Iran. *Quaternary International* 408, pp.52-64, <https://doi.org/10.1016/j.quaint.2015.12.041>; Soofi, M., et al (2018). Livestock grazing in protected areas and its effects on large mammals in the Hyrcanian forest, Iran, *Biological Conservation*, 217, pp. 377-382, <https://doi.org/10.1016/j.biocon.2017.11.020>; Song, Y. et al.-. (2020). Phylogeny, species delimitation and biogeography of the relict tree genus *Pterocarya* (Juglandaceae). *Plants* 9, 1524; Song, Y.-G., et al. (2021). Past, present and future suitable areas for the relict tree *Pterocarya fraxinifolia* (Juglandaceae): integrating fossil records, niche modelling, and phylogeography for conservation. *European Journal of Forest Research* 140, pp. 1323-1339; Yousefzadeh, H., et al. (2021). Genetic diversity and structure of rear edge populations of *Sorbus aucuparia* (Rosaceae) in the Hyrcanian Forest. *Plants* 10, 1471.

d) Consultations: 9 desk reviews were received for the 2019 evaluation of “Hyrcanian Forests” (Iran) and a further 8 desk reviews received for this proposed extension. The mission met with a wide range of stakeholders including, in Azerbaijan, representatives from the Ministry of Ecology and Natural Resources, Hirkan National Park, districts of Astara and Lenkoran, Zangulash and İstisuchay villages, and WWF Azerbaijan; and in Iran Ministry of Cultural Heritage, Tourism and Handicrafts, Department of Environment, Forests, Range and Watershed Management Organization, Eastern Azerbaijan province government, local residents of villages Keranlu.

e) Field Visit: Oliver Avramoski and Jan Woolhead, 25 to 30 October 2021

f) Date of IUCN approval of this report: April 2022

2. SUMMARY OF NATURAL VALUES

The nominated property is situated in the Caspian Hyrcanian mixed forests ecoregion (hereinafter referred to as the Hyrcanian Region), stretching around 1,000 km along the southern coast of the Caspian Sea. This ecoregion belongs to the ecoregion complex Caucasus-Anatolian-Hyrcanian Temperate Forests, considered globally significant within WWF’s Global 200 priority ecoregions system. The Hyrcanian Forests form a green arc of forest, separated from the Caucasus to the west and from semi-desert areas to the east: a unique forested massif that extends from south-eastern Azerbaijan eastwards to the Golestan Province in Iran. The Hyrcanian Region also includes non-forested rangelands above the timberline, as well as formerly forested lowland areas. The narrow coastal plains along the Caspian Sea are heavily degraded and almost entirely converted into cultivated lands, however, the

forest ecosystems have so far been preserved at higher altitudes on both slopes of the Tallish and the Alborz Mountains.

A description of the property already inscribed under criterion (ix) is included here because the nomination calls for both an extension in area of the serial property and a re-nomination on the basis of criterion (x). The currently inscribed property is a serial site with 15 component parts (see Table 1), situated throughout the Hyrcanian Region from the northwest to east of Iran and covering two main ecotones from east to west and from low elevation to subalpine meadows. The component parts had been selected meticulously and represent examples of the various stages and features of the Hyrcanian Forest ecosystems. One component part (Khoshk-e-Daran, No. 12) is located on the coastal plain and includes a unique lowland forest ecosystem (swamp-forests). All other component parts are in higher altitudes, up to the treeline and sometimes include on their margins, subalpine and alpine ecosystems. A considerable part of the site is inaccessible steep terrain given 92% of the nominated area is described as hilly or mountainous.

Nr	Component part	Component part (ha)	Buffer zone (ha)
Islamic Republic of Iran			
1	Golestan (North)	17,873	64,301
2	Golestan (South)	10,658	
3	Abr (East)	6,673	23,323
4	Abr (West)	10,991	
5	Jahan Nama	11,340	26,863
6	Boola	17,516	12,344
7	Alimestan	394	846
8	Vaz (East)	2,218	3,720
9	Vaz (West)	4,692	
10	Kojoor	14,892	9,629
11	ChaharBagh	6,886	2,664
12	Khosk-e-Daran	215	39
13	Siahroud-e-Roudbar	11,197	15,897
14	Gasht Roudkhan	10,541	16,015
15	Lisar	3,398	1,487
Total area (ha)		129,485	177,129

Table 1: Inscribed property component parts and buffer zone areas

The proposed serial extension of the inscribed World Heritage property “Hyrcanian Forests” (Iran) includes two additional component parts in Iran totaling 7,122 ha, encompassed by a joint buffer zone of 55,725 ha. It also includes three new component parts in Azerbaijan with a total area of 24,588 ha that partially overlaps the “Hirkan Forests of Azerbaijan”, initially proposed in 2006. A joint buffer zone of 61,632 ha encompasses all the three nominated component parts (see table 2). The total area of Hirkan National Park has nearly doubled since the 2005 nomination to 40,358 ha (in 2008).

Nr	Component part	Core area (ha)	Buffer zone (ha)
Republic of Azerbaijan			
01	Dangyaband	2,703	61,632
02	Khanbulan	9,068	
03	Istisuchay Valley	12,817	
Islamic Republic of Iran			
04	Dizmar West	4,706	55,725
05	Dizmar East	2,416	
Total area (ha)		31,710	117,357

Table 2: Nominated property component parts and buffer zone areas

As part of the so-called Arcto-Tertiary Geoflora, vast deciduous and mixed forests historically covered much of the land of the Northern Hemisphere. Following historic climate change resulting in widespread glaciation, these forests were reduced to refuges in North America, Western Eurasia and East Asia. Countless species went extinct, while others survived as relicts. During warmer, interglacial periods, the forests expanded again. Globally, it is extremely rare that the evolution of a temperate deciduous forest region has remained uninterrupted over such a long period of time and is ongoing at such a large scale and with such a high degree of naturalness. The forests could thereby diversify into an exceptional range of forest types along a gradient from sea level up to the tree line at some 2,500 to 2,800 m a.s.l., as well as in a gradient of decreasing humidity along the southwestern and southern shore of the Caspian Sea from the northwest to the east. The extension would cover the north-western extreme to complete the west-east gradient.

The property (inscribed and nominated) contains Arcto-Tertiary relicts from broad-leaved forests that 25-50 million years ago covered most parts of the Northern Temperate Zone. These huge forest areas retreated during Quaternary glaciations and later during milder climatic periods, expanded and spread out from this refugia. It is considered as an origin for European broad-leaved forests and, due to this isolation, hosts many relict, endangered, regional and local endemic flora species giving the site and the whole Hyrcanian Region in general, important natural features and very high ecological values.

The floristic biodiversity of the Hyrcanian Region is on a global level remarkable with over 3,200 vascular plant species documented. About 44% of known vascular plants in Iran occurs in the Hyrcanian Region which covers only 7% of Iran's territory, emphasizing the exceptional importance of this region for the protection of biodiversity. Approximately 280 taxa are endemic or sub-endemic for the Hyrcanian Region and about 500 plant species are Iranian endemics. A total of 80 native tree species have been documented here. Most ecological characteristics from this ecoregion are represented in the nominated property.

Due of the extent of the forested ecosystems, the population size for many forest birds and mammals of the Hyrcanian Region is significant on national, regional and global scales. To date, 58 mammal species and 180

bird species typical for broadleaved temperate forests have been recorded in the Hyrcanian Region. Persian leopard (*Panthera pardus saxicolor*, EN) and the wild goat (*Capra aegagrus*, VU) are the most threatened and iconic mammals included on the IUCN Red List. Birds like the Steppe Eagle (*Aquila nipalensis*, EN), European Turtle Dove (*Streptopelia turtur*, VU), Eastern Imperial Eagle (*Aquila heliaca*, VU), European Roller (*Coracias garrulus*, LC) and Semicollared Flycatcher (*Ficedula semitorquata*, NT) amongst many other species inscribed on the IUCN Red List, as well as the near-endemic Caspian Tit (*Poecile hyrcanus* LC) have also been observed in the region.

3. COMPARISONS WITH OTHER AREAS

The IUCN evaluation from the time of the initial inscription of the property provides a comparative analysis (see document WHC-19/43.COM/INF.8B2), which remains relevant here. The analysis below therefore focuses upon the component parts proposed in this extension nomination.

Temperate forests are an underrepresented category of World Heritage properties for the simple reason that those forests have disproportionately suffered from forest loss and degradation. The Hyrcanian Forests stand out within the relatively small number of meaningful remnants of nemoral deciduous forests due to their unique isolated location nestled between the Caspian Sea, high mountains and non-forested drylands. In terms of the sheer age and duration of evolutionary processes, the Hyrcanian Forests can only be compared to the forests of the Colchis in Georgia, which were inscribed in 2021 as “Colchic Wetlands and Forests” (Decision 44 COM 8B.8). However, the latter differ substantially in terms of species composition and structure. In the following section, the newly proposed component parts are discussed with regard to their potential contribution to the existing property, inscribed under criterion (ix).

Dangyaband, Khanbulan and Istisuchay Valley (Azerbaijan)

Many similar habitats, landscapes and species occur within the existing Western Caucasus World Heritage property (Russian Federation) and the Hirkan National Park, although the Western Caucasus is much larger. The nominated component parts are not normally considered to be part of the Caucasus Mountain range; rather, within the neighbouring Talish Mountains, which lack the high mountainous belt of the Caucasus Mountain range. Both properties are covered by deciduous forests characterized by oak and hornbeam forests and have similar wildlife composition, although the Western Caucasus property also includes an introduced population of European bison. The importance of the nominated component parts by comparison with the Western Caucasus rests on the distinctiveness of the Hyrcanian forests as nemoral forests, i.e. temperate deciduous broad-leaved forests, which differ from the typical mesophytic deciduous broad-leaved forests. The uniqueness of these forests reflects their status as arcto-tertiary elements providing continuous forest cover since the Upper Tertiary

(Pliocene Epoch) period, thus providing important refuges for natural woodland of Tertiary origin. The nominated component parts are representative of the relict Hyrcanian Forests found in the eastern Caucasus region.

Therefore, IUCN considers that the nominated component parts of Dangyaband, Khanbulan and İstisuchay Valley (Azerbaijan) continue and complete the rationale for component part selection based on forest type diversity, which was already presented in the previous 2019 nomination.

Dizmar East and Dizmar West (Iran)

The Global Comparative Analysis does not consider the neighbouring Arasbaran Protected Area, on the Tentative List of the Islamic Republic of Iran, under criteria (vii), (viii), (ix) and (x). This site was evaluated by IUCN in 2018 and deferred by the Committee (Decision 42 COM 8B.7). The nomination dossier for Arasbaran clearly separated the Arasbaran from the Hyrcanian region. This is also reflected in contemporary literature, which locates the geographical distribution of the Hyrcanian Forests within the watershed of and exposed to the Caspian Sea, covering the gradient from the coast to the upper limit of the tree line. Furthermore, the forests included in the nominated component parts of Dizmar East and Dizmar West appear to lack characteristic Hyrcanian elements, such as *Parrotia persica*, *Albizia julibrissin*, *Quercus castaneifolia*, *Tilia hyrcana*, *Pyrus mazandaranica*, and many of the Hyrcanian-Euxinian forest elements, such as *Zelkova carpinifolia*, *Pterocarya fraxinifolia*, and *Fagus orientalis*.

Therefore, IUCN considers that the proposed component parts of Dizmar East and Dizmar West do not appear to contribute to the series of Hyrcanian Forests of the existing property.

In respect to criterion (x), the IUCN evaluation of the 2019 Hyrcanian Forest nomination submitted by Iran noted that the 15 component parts include irreplaceable habitat refuge areas of Arcto-Tertiary forest elements in West Eurasia, which are key for the in-situ conservation of a great number of relic and endemic species of plants and animals of invaluable scientific and ecological importance. However, the effective presence of those species in 15 component parts was not confirmed and should in several cases be clarified by the State Party. IUCN noted that the property had potential to meet criterion (x) but there was a need to detail which species were found in which component part to better understand the rationale for the inclusion of the existing 15 component parts under this criterion. IUCN notes that important biodiversity values have been reported for all newly nominated component parts, including for instance the presence of the Persian Leopard (*Panthera pardus saxicolor*, VU), however, while the present extension nomination seeks to re-nominate the existing property and the proposed new component parts under criterion (x), neither the nomination file nor the supplementary information provided by the States Parties contain any additional details that could specifically strengthen the case under criterion (x) for

the nominated property as a whole. The States Parties acknowledged that the information for criterion (x) remains limited to this day, agreeing that further research and documentation is still needed. The States Parties also stated in their supplementary information that they are open to consider criterion (x) at a later stage when more conclusive evidence will be available.

In conclusion, IUCN reiterates that the nominated property is considered to still have potential to meet criterion (x), but there remains a need to detail which species are found in which component part of the nominated property. IUCN considers that the nominated component parts of Dangyaband, Khanbulan and İstisuchay Valley (Azerbaijan) add attributes that complete the existing serial site representing the northernmost part of the Hyrcanian Forests.

4. INTEGRITY, PROTECTION AND MANAGEMENT

4.1. Protection

Dangyaband and İstisuchay Valley (Azerbaijan)

The area of the nominated component parts of Dangyaband and İstisuchay Valley in Azerbaijan are within the boundaries of the state-owned Hirkan National Park (IUCN Category II), and are under a strict protection regime. With few exceptions, no access is allowed to the nominated component areas for the public, including tourists. Rangers patrol the areas and, in most cases, live in the buffer zones. The buffer zone comprises mostly forests and connect the nominated component areas together. Grazing and recreational uses are permitted, but high-intensity land use and the construction of new settlements are prohibited.

Khanbulan (Azerbaijan)

While the above also applies to the nominated component part of Khanbulan, IUCN notes that the boundaries of this component part do not match the forest cover nor is it entirely overlapped by the national park ensuring strict protection of the area (see section 4.2). Therefore, IUCN considers that the boundaries of this nominated component part need to be revised to ensure adequate legal protection before it can be added to the existing World Heritage property.

Dizmar East and Dizmar West (Iran)

The protection of the forest ecosystems in the proposed component parts in Iran is due to prevention of interference, lack of road infrastructure and close cooperation with the local communities around the proposed component parts. The Dizmar Protected Area, containing both nominated component parts, is state-owned. The protection of the nominated areas is based on the protective regulations under the responsibility of the Forests, Range and Watershed Management Organization, the Department of Environment, and the Ministry of Cultural Heritage, Tourism and Handicrafts, which is in line with the governance of the existing World Heritage property. This legal framework prohibits any interference and degradation to the nominated property as well as any intervention affecting its integrity. The strict protection regime appears to be adequate.

IUCN considers that the protection status meets the requirements of the *Operational Guidelines* for the nominated component parts of Dangyaband and İstisuchay Valley (Azerbaijan), Dizmar East and Dizmar West (Iran), but not for Khanbulan (Azerbaijan) due to the lack of alignment with the national park's legal protection regime.

4.2 Boundaries

Regarding the potential of the nominated component parts to add value to the existing series, IUCN notes that the proposed component parts would significantly increase the size of the existing property by 24.5%. The nominated component parts in Azerbaijan, Dangyaband, Khanbulan and İstisuchay Valley, represent the northernmost extension of the Hyrcanian Forests and contain highly valuable ancient forests and therefore complement the already inscribed component parts in Iran. These nominated component parts belong to the same arch of forest stretching from the southern coast of the Caspian Sea northwards along its western coast, expanding the climatic and biogeographical gradient of the inscribed serial property. They also exhibit a high degree of integrity. While the nominated component parts of Dizmar East and Dizmar West (Iran) are presented as a transition type between the Hyrcanian and the Colchic forests, there does not appear to be any forest connectivity to the same degree as between the existing component parts and the nominated component parts in Azerbaijan. The limited connectivity is also exemplified by satellite imagery and the low integrity of the nearby Arasbaran Protected Area, evaluated by IUCN in 2018. In the following, the boundaries of each of the nominated component parts are discussed in detail.

Dangyaband and İstisuchay Valley (Azerbaijan)

The border of the nominated component areas of Dangyaband and İstisuchay Valley (Azerbaijan) encompass the best protected and oldest forests of the Hirkan National Park, with trees aged up to 300-400 years. The boundaries of the nominated component parts appear to capture these most valuable areas. Conceptually this is designed to simplify management with only two management regimes within the National Park: the component areas and the buffer zone. An important exception from this is the lack of a buffer zone South of İstisuchay Valley, due to this being Iranian territory. Given the international border is a deep river valley, and it is forbidden to approach the border, IUCN considers this an acceptable configuration. With regard to the surrounding landscape, a zonation scheme is not needed because of the wide buffer zone. The forests in the buffer zones are often subject to slight grazing in some parts. Other parts of the buffer zone can be described as pastureland. Forests outside the buffer zone do provide some connectivity to other forest habitats which the significantly larger buffer zone accommodates. However, in the lowland towards the Caspian Sea there is virtually no forest remaining. South of İstisuchay Valley, on the Iranian side, there are also forests next to İstisuchay Valley.

Khanbulan (Azerbaijan)

Between Dangyaband and Khanbulan there is a paved road in the buffer zone creating some lack of connectivity. The nominated component part includes a village within the boundaries (shown on the maps in the dossier). Unlike the other two component parts in Azerbaijan, the boundary of Khanbulan does not correspond with the boundaries of the central unit of the National Park. That is, the boundary of the nominated component part both extends beyond the boundary of the protected area and in other cases it does not include all of the protected area. Map 2, on p. 62, was provided as supplementary information by the States Parties and shows the nominated boundary in relation to the Park boundary and buffer zone. This map indicates a clear incongruence between the protected area and the component part. IUCN also notes that the areas located outside the National Park but included in the nominated component part appear to be deforested to a large extent. Therefore, IUCN is of the view that the boundaries of the nominated component part of Khanbulan would need to be aligned with the existing boundaries of the National Park before this nominated component part can be included into the existing series.

Dizmar East and Dizmar West (Iran)

The boundaries of these component parts include most of the contiguous forests in the Dizmar Protected Area, void of any road infrastructure or power lines. The nominated component parts display a full range of evolved characteristic plants and animals. However, the field evaluation mission did not observe any significant old-growth or primary forest stands and most of the trees are aged 20-40 years. Trees older than 60 years are rare.

The nominated component parts are embedded within the "Intense Protection Zone" (8,805 ha) in which use of natural resources is prohibited and human disturbance from research and tourism activities are strictly controlled. The buffer zone is large and comprises small traditional settlements, forested areas, patches of grazing land, meadows, arable land and a network of mostly unpaved roads as well as gas and power lines. A large part of the buffer zone falls within the "Protection Zone" (17,969 ha) that completely surrounds the Dizmar West and Dizmar East nominated component parts ensuring adequate prevention of pressures and threats. The "Rehabilitation Zone" (9,461 ha) includes the area surrounding settlements at lower altitudes; this zone runs along most of the eastern part of the buffer zone except for a stretch in the south-eastern corner where the "Protection Zone" enables unimpeded ecological connectivity with the buffer zone of the neighbouring Arasbaran Biosphere Reserve. The "Protection Zone" includes most of the western part of Dizmar Protected Area, aiding the ecological connectivity with the Kiamaky Wildlife Refuge to the west (IUCN Category V), although the two protected areas are not contiguous.

IUCN considers that the boundaries of the nominated component parts of Dangyaband and İstisuchay Valley (Azerbaijan) and their buffer zones meet the requirements of the *Operational Guidelines*; however the boundaries of the nominated component part of Khanbulan (Azerbaijan) do not meet these

requirements. While the boundaries of the nominated component parts of Dizmar East and Dizmar West (Iran) and their buffer zone are appropriate, these nominated component parts are disconnected from the existing series of the inscribed property.

4.3 Management

Dangyaband and İstisuchay Valley (Azerbaijan)

The national park's management plan is detailed, and important management elements appear to be in place, as observed by the field mission, except for a monitoring system over and above the Persian Leopard. In supplementary information, the State Party has committed to update this management plan, if the nominated component areas are inscribed. Managers operate with annual work plans and budgets and regular horse patrols report no incidents of poaching in 2021 and only one in 2020. Free ranging cattle in the buffer zone could enter Dangyaband but the field evaluation mission found that grazing in the buffer had no serious impact on the nature within.

The nominated component areas are under the full control of the State National Park Administration that is a part of the Ministry of Ecology and Natural Resources, managed by a Park Director supervising 96 staff of which 50 are rangers. It is expected to increase staff by 10-20 people if the nominated component areas are inscribed on the World Heritage List. Most of the funding is provided by the Ministry of Ecology and Natural Resources with local revenue contributing to operating expenses.

The buffer zone includes villages inhabited by the Talish People, who have traditional rights to use the land and whose activities are accommodated and do not appear to pose any threats to the natural values of the nominated component parts.

Khanbulan (Azerbaijan):

This nominated component part includes a village in its northern extent. Cohesive and consistent management of this component part is complicated by the fact that the boundary of Middle Hirkan National Park does not correspond with the boundary of the nominated component part of Khanbulan (see section 4.2). In areas outside the national park, a different and more liberal management regime applies.

Dizmar East and Dizmar West (Iran)

The summary of the Management Plan of Dizmar Protected Area, formally approved in 2019 by the Department of Environment that was attached to the nomination file lacks clear identification of the key biodiversity values as well as a list of the related management objectives. The State Party provided the mission the full document in Farsi language and briefly explained its content. The document is rich in information sufficient to provide effective management planning for the Dizmar Protected Area. However, in the event the nominated property extension is approved, it should be revised and upgraded by clearly identifying

the attributes of the OUV and the related management objectives.

IUCN considers that the nominated component parts of Dangyaband and İstisuchay Valley (Azerbaijan), and Dizmar West and Dizmar East (Iran) meet management requirements, but that the nominated component part of Khanbulan (Azerbaijan) does not meet the requirements of the *Operational Guidelines*.

4.4 Community

Dangyaband and İstisuchay Valley (Azerbaijan)

The Talish people living in the buffer zone of Hirkan National Park have a unique language and cultural heritage. Their living with nature is close to being self-sustainable, and has been so for centuries. Their way of appreciating the environment in the Talish Mountains has contributed to secure the preservation of this valuable forest until the present time. The Talish people have traditional rights to use the land within the buffer zone of the national park, which is also noted in supplementary information. The field mission reported that the national park authority manages in cooperation with local stakeholders, especially the Talish people living within the national park, but also tourism business, the district councils, the municipalities and NGOs.

Khanbulan (Azerbaijan):

While the settlements are all located in the buffer zone of Hirkan National Park, those areas of the nominated component part of Khanbulan outside the national park currently include one village as well as deforested areas. A review of the boundaries of this component to align with Hirkan National Park should also be undertaken in collaboration with local communities to ensure that rights are respected and access to traditional sustainable livelihoods maintained.

Dizmar East and Dizmar West (Iran)

Several settlements in the buffer zone continue the extensive use of grazing land and meadows outside the nominated component parts. Arable land in the buffer zone is under private ownership of local residents whereas grazing land is under the traditional ownership of both local residents and transhumant shepherds. The communication and cooperation with local residents by rangers patrolling the Dizmar Protected Area appears to be effective and based on mutual trust and respect. Subsidized natural gas to the settlements in the Dizmar Protected Area is a strategic approach by the central, provincial, and local governments to improve access to reliable energy and reduce or eliminate the dependence of local communities on forests resources for energy supply. Traditional vernacular architecture and ways of life of the area are values of national importance. A network of 10 environmental NGOs in East Azerbaijan province, Iran, provided a letter of support for the nomination.

Overall, and based on the information provided to IUCN and evident to the field mission, traditional rights by communities appear to be accommodated, a point which is also underlined in supplementary information. The field mission concluded there was broad based

support for the nomination and no voices of community opposition were noted.

4.5 Threats

Dangyaband, Khanbulan and İstisuchay Valley (Azerbaijan)

In general, the national park is well-protected and managed, and it appears there are very few threats. People living in the mountains within the national park belong to the ethnic group Talish. They do not practice hunting, and rarely cut trees. However, the rather low level of dead wood in the forest could indicate that in former times removal of dead wood had been taking place in some parts of the forest. Poaching is nearly non-existent. Local people accept that they may occasionally lose cattle and sheep through predation by wildlife. Tourism is very restricted, and is at present at levels which do not threaten the nominated component areas. Tourist trails for hiking have been established within the buffer zones.

Dizmar East and Dizmar West (Iran)

Wildfires were mentioned during the field mission as the most important threat to natural values of the nominated component parts. Poaching, illegal tree cutting and disturbance of wildlife in both the nominated component parts and their buffer zone were not considered significant. Overgrazing was presented as a challenge during the migration of the transhumant shepherds in spring and autumn to and from the grazing lands outside the Dizmar Protected Area. Urbanization, including paving of the roads and development of public infrastructure as well as development of mining operations in the buffer zone were listed as the most important potential or future threats. Illegal cutting and collection of dead wood in the buffer zone does not appear to be an issue as a result of law enforcement but also due to the support of the government in meeting the local energy demands by gasification and more recently the promotion of solar energy.

In summary, IUCN considers that the threat levels for all nominated component parts are currently low, though the potential future threat of mining in the buffer zone of Dizmar East and Dizmar West (Iran) would be of concern. The boundaries and protection status of Dangyaband and İstisuchay Valley (Azerbaijan) and Dizmar East and Dizmar West (Iran) are appropriate; however, the boundaries for Khanbulan (Azerbaijan) would need to be revised to achieve an adequate protection status and more manageable property design.

IUCN considers that the integrity requirements and protection and management requirements of the Operational Guidelines are only partially met, however fully met by the nominated component parts of Dangyaband and İstisuchay Valley (Azerbaijan).

5. ADDITIONAL COMMENTS

5.1 Consideration in relation to serial properties

a) What is the justification for the serial approach?

A serial approach is necessary to relate all the story of the Hyrcanian broadleaf forest which spreads over approximately one thousand kilometers from Southern Azerbaijan to the west, to the eastern limit of Iran. This is the only way to tell the story of this very wide forest mountain range and its ecotones, from semi-desertic areas to swamp forests and from sea level to the upper limit of the tree-line. This serial approach is also desirable to illustrate all environmental processes which drive evolutionary processes temporally and spatially. The selected component parts in Azerbaijan complete this array of ecosystems and species habitats illustrating the main biodiversity features and assets that can be met in the whole Hyrcanian Forest. A serial approach is thus fully justified and consistent with past World Heritage Committee decisions (decisions 30 COM 8B.24 and 43 COM 8B.4). However, as noted in section 3, Dizmar East and Dizmar West do not appear to contribute attributes that would clearly be representative of the Hyrcanian Forests, which mainly occur in the Caspian Sea's watershed.

b) Are the separate component parts of the nominated property functionally linked in relation to the requirements of the Operational Guidelines?

While not physically connected, all component parts – except Dizmar West and Dizmar East – may be considered as functionally linked. The key ecosystems and their distribution are widely spread over the whole forest range and represented in the nominated serial property. Thus, supporting the functional dynamics of the ecological processes which underpin the claims under criterion (ix).

Little evidence is provided on the existence on functional connectivity of Dizmar West and Dizmar East to Dangyaband, Khanbulan and İstisuchay Valley or the inscribed component parts. This is limited to the movement of large mammals, in particular the Persian leopard and some connectivity efforts, however, this alone does not, in IUCN's view, constitute a compelling case for the addition of the nominated component parts of Dizmar West and Dizmar East.

c) Is there an effective overall management framework for all the component parts of the nominated property?

All of the inscribed and nominated component parts have management plans. Iran has rules and regulations requiring new budgets be allocated to management of any property inscribed on the World Heritage List. High-level representatives of the States Parties committed to transboundary cooperation at the inscription in 2019. A draft "Agreement on Cooperation" towards joint management of the "Hyrcanian Forests" has been officially discussed, though no documents have yet been presented. IUCN notes the commendable level of

cooperation that has been fostered via this extension nomination within only three years. This should in IUCN's view serve as basis for a more explicit and detailed integrated management framework to harmonize management approaches across the whole transnational property.

6. APPLICATION OF CRITERIA

The **Hyrcanian Forests (Azerbaijan / Iran (Islamic Republic of))** have been nominated under natural criteria (ix) and (x).

Criterion (ix): Ecosystems/communities and ecological/biological processes

The proposed component parts of *Dangyaband and İstisuchay Valley (Azerbaijan)* contain highly valuable ancient forests belonging to the Hyrcanian Forests and complement the 15 inscribed component parts in Iran. They belong to the same arch of forest straddling along the Caspian Sea. These two component parts are part of the Hirkan National Park, and interconnect with forests in the buffer zone. They comprise full ecosystems including top predators such as leopard, wolf and brown bear. The forest has a high degree of rare and endemic tree species. Dangyaband is mainly covered by *Quercus castaneifolia* and in some parts with *Parrotia persica*, *Alnus subcordata* and *Fagus orientalis*. In İstisuchay Valley, the forests are dominated by *Fagus orientalis* with some *Alnus subcordata* and *Acer pseudoplatanus*. The oldest trees seen were 300-400 years old, with some possibly up to 500 years.

The nominated component part of Khanbulan is also dominated by *Fagus orientalis* with some *Alnus subcordata* and *Acer pseudoplatanus*, including significant old-growth stands. However, the proposed boundaries include deforested areas outside the Hirkan National Park, which fall under the more permissive protection regime of the national park's buffer zone. Therefore, IUCN considers that the nominated component part of Khanbulan has the potential to meet this criterion following the revision of the boundaries to align with Hirkan National Park.

The nominated component parts of Dizmar East and Dizmar West in Iran were proposed as broadleaf mixed forests that represent a transition type between the Hyrcanian and the Colchic forests. They are dominated by *Carpinus betulus* and *Quercus petraea* subsp. *iberica* and are presented to be the westernmost representatives of the Hyrcanian Forests. The connection with the forests in the inscribed component parts is inferred from the petrified trunks of the Meshginshahr Fossil Forest, affected by past eruptions of the Sabalan Volcano, the extant *Fagus orientalis* forests at Fandoghloo, near Ardabil, but also the forests in the neighbouring Arasbaran Biosphere Reserve. Taken together the two nominated components contain old growth stands at high altitudes (Dizmar West) and a series of succession and/or natural regeneration stages in the lower altitudes, due primarily to fire. These forests entirely lack the Hyrcanian (such as *Parrotia persica*,

Albizia julibrissin, *Quercus castaneifolia*, *Tilia hyrcana*, *Pyrus mazandaranica*, etc.) and many of the Hyrcanian-Euxinian forest elements (such as *Zelkova carpinifolia*, *Pterocarya fraxinifolia*, and *Fagus orientalis*). They have a different species composition from other "Hyrcanian Forests" in the property. Therefore, IUCN considers that the nominated component parts of Dizmar West and Dizmar East do not substantially add value to the existing series and are thus not recommended for consideration as an extension.

IUCN considers that the nominated component parts of Dangyaband and İstisuchay Valley meet this criterion.

Criterion (x): Biodiversity and threatened species

Decision 43 COM 8B.4, which inscribed 15 component parts in Iran on the basis of criterion (ix) and took "note of the potential for this property to also meet criterion (x)". This decision recommended further analysis of species inventories to confirm species composition and population conservation status to ascertain the relevant values are sufficient to meet criterion (x)." IUCN notes that this species specific information is still largely lacking within each of the existing and newly nominated component parts—including requested precise distribution data on strictly restricted endemics and globally threatened species. In Supplementary Information, the States Parties acknowledged that this information "remains limited to this day."

Based on the information presented in the nomination file for the existing property and recent research, there are at least 34 species of vascular plants occurring within the 15 components of the existing property or their buffer zone which are range-restricted endemics. In addition, there are seven globally threatened species of flora and fauna whose presence within the 15 components of the existing property or their buffer zone has been confirmed or is expected. Of these, only the Alborz viper or Armenian steppe viper (*Vipera erivanensis* Reuss) occurs in the nominated Dizmar West and Dizmar East. Based on the presented information in the dossier, it is likely that the Dangyaband, Khanbulan and İstisuchay Valley could support criterion (x).

Additional evidence (more detailed spatial distribution and population status data) is needed to assess the importance of the inscribed – and some of the nominated – component parts for the conservation of critical habitats for these species.

IUCN considers that the nominated property has the potential to meet this criterion; however, further information and data are needed to clarify the presence or absence of species in each component and the conservation status of such species in order to strengthen the case under this criterion.

7. RECOMMENDATIONS

IUCN recommends that the World Heritage Committee adopts the following draft decision:

The World Heritage Committee,

1. Having examined Documents WHC/22/45.COM/8B and WHC/22/45.COM/INF.8B2,

2. Recalling decisions **30 COM 8B.24** and **43 COM 8B.4** adopted at its 30th (Vilnius, 2006) and 43rd (Baku, 2019) sessions respectively,

3. Approves the significant boundary modification of the **Hyrcanian Forests, Islamic Republic of Iran**, to become **Hyrcanian Forests, Azerbaijan, Islamic Republic of Iran**, on the World Heritage List, on the basis of **criterion (ix)**, through the addition of two component parts in Azerbaijan:

- *Dangyaband (Azerbaijan);*
- *İstisuchay Valley (Azerbaijan);*

4. Adopts the following Statement of Outstanding Universal Value for the property as a whole, including the newly added component parts outlined above:

Brief synthesis

The Hyrcanian Forests form a green arc of forest, separated from the Caucasus to the west and from semi-desert areas to the east: a unique forested massif that extends from south-eastern Azerbaijan eastwards to the Golestan Province, in Iran. The Hyrcanian Forests World Heritage property is situated in Azerbaijan and Iran, within the Caspian Hyrcanian mixed forests ecoregion. It stretches approximately one thousand kilometres along the southern and south-western coast of the Caspian Sea and covers around 7% of the remaining Hyrcanian forests in Iran.

The property is a serial site with 17 component parts shared across three Provinces (Gilan, Mazandaran and Golestan) in Iran and across two Districts (Lenkoran and Astara) in Azerbaijan and represents examples of the various stages and features of Hyrcanian forest ecosystems. Most of the ecological characteristics of the Caspian Hyrcanian mixed forests are represented in the property. A considerable part of the property is in inaccessible steep terrain. The property contains exceptional and ancient broad-leaved forests which were formerly much more extensive however, retreated during periods of glaciation and later expanded under milder climatic conditions. Due to this isolation, the property hosts many relict, endangered, and regionally and locally endemic species of flora, contributing to the high ecological value of the property and the Hyrcanian region in general.

Criterion (ix)

The property represents a remarkable series of sites conserving the natural forest ecosystems of the Hyrcanian Region. Its component parts contain exceptional broad-leaved forests with a history dating back 25 - 50 million years ago, when such forests covered most parts of the Northern Temperate region. These huge ancient forest areas retreated during

Quaternary glaciations and later, during milder climate periods, expanded again from these refugia. The property covers most environmental features and ecological values of the Hyrcanian region and represents the most important and key environmental processes illustrating the genesis of those forests, including succession, evolution and speciation.

The floristic biodiversity of the Hyrcanian region is remarkable at the global level with over 3,200 vascular plants documented. Due to its isolation, the property hosts many relict, endangered, and regionally and locally endemic plant species, contributing to the ecological significance of the property, and the Hyrcanian region in general. Approximately 280 taxa are endemic and sub-endemic for the Hyrcanian region and about 500 plant species are Iranian endemics.

The ecosystems of the property support populations of many forest birds and mammals of the Hyrcanian region which are significant on national, regional and global scales. To date, 180 species of birds typical of broadleaved temperate forests have been recorded in the Hyrcanian region including Steppe Eagle, European Turtle Dove, Eastern Imperial Eagle, European Roller, Semicollared Flycatcher and Caspian Tit. Some 58 mammal species have been recorded across the region, including the iconic Persian Leopard and the threatened Wild Goat.

Integrity

The component parts of the property are functionally linked through the shared evolutionary history of the Caspian Hyrcanian mixed forest ecoregion and most have good ecological connectivity through the almost continuous forest belt in the whole Hyrcanian forest region. Khoshk-e-Daran, is the only component part that is isolated, however it still benefits from a high level of intactness and contributes to the overall value of the series. Each component part contributes distinctively to the property's Outstanding Universal Value and the component parts together sustain the long-term viability of the key species and ecosystems represented across the Hyrcanian region, as well as the evolutionary processes which continue to shape these forests over time.

Several component parts have suffered in the past from lack of legal protection, and continue to be negatively impacted to some extent by seasonal grazing and wood collection. The sustainable management of these uses is a critical issue for the long-term preservation of the site's integrity and it will require strong ongoing attention by the State Party.

Protection and management requirements

All component parts of the property are state owned and strictly protected by the respective national legislation in Azerbaijan and Iran. The two component parts in Azerbaijan are located within the boundaries of Hirkan National Park under the responsibility of the Ministry of Ecology and Natural Resources, and are subject to a strict protection regime. The 15 component parts in Iran are protected through the Nature Conservation Law and by the Heritage Law. It will be important to harmonize and streamline the management and protection regime

across the transnational property as a whole.

The management of the property's component parts in Azerbaijan is subject to the Management Plan of Hirkan National Park. The management is ensured by around 100 staff. The national park authority manages the component parts and their buffer zone in cooperation with local stakeholders, especially the Talish people living within the national park. The Talish people follow close to sustainable livelihoods, which has contributed to secure the preservation of the valuable forest until the present time. They have traditional rights to use the land within the buffer zone of the national park.

The management of the property's component parts in Iran is under the responsibility of three national agencies, the Iranian Forests, Range, Watershed and Management Organization (FRWO), Department of Environment (DoE) and the Cultural Heritage, Handicrafts and Tourism Organization (ICHHTO). A National Steering Committee is in place to ensure coordination across the series as a whole. This mechanism will need to be maintained in order to guarantee comprehensive management of the site into the future, based on a common vision and supported by adequate funding. Each component part has a management plan however, a transnational "Master Management Plan" for the whole property is also a long term requirement. The national and component-specific plans should be maintained, developed and updated regularly together by the responsible management institutions, in cooperation with ministries, universities and NGOs across both States Parties.

Public access and use of the area is legally regulated and logging, grazing, hunting and most other uses that may potentially impact the property are strictly prohibited within all component parts. Vehicle access and other uses and activities that may potentially impact the property are also either forbidden or strictly regulated. However, enforcement of access and use regulations is not always effective and requires strengthening. Particular attention is required to maintain and enhance where possible, ecological connectivity between component parts and to ensure effective regulation of seasonal grazing and wood collection, in consultation with local communities.

5. Taking note of the potential for *Khanbulan (Azerbaijan)* as an additional component part for this series, encourages the State Party of Azerbaijan before considering potential resubmission of this component part to align the boundaries of the *Khanbulan (Azerbaijan)* nominated component part with the boundaries of the Hirkan National Park, in consultation with local communities;

6. Takes note again of the potential for this property to also meet criterion (x), and recommends the State Parties of Azerbaijan and Islamic Republic of Iran to continue work to complete species inventories and confirm species composition and population conservation status within each of the component parts, and to consider submitting a re-nomination of the property if the further studies appear to confirm the relevant values are sufficient to meet criterion (x);

Map 1: Location of the proposed component parts (blue 1-5)



Map 2: Boundaries of nominated component parts in Azerbaijan

