ASIA / PACIFIC

HYRCANIAN FORESTS

ISLAMIC REPUBLIC OF IRAN

Landscape in Abr component – © IUCN / Hervé Lethier

WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION

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

IUCN RECOMMENDATION TO WORLD HERITAGE COMMITTEE: To inscribe the property under natural criterion (ix).

Key paragraphs of Operational Guidelines:
Paragraph 77: Nominated property meets World Heritage criteria.
Paragraph 78: Nominated property meets integrity, protection and management requirements.

Background note: The Committee's attention is drawn to Decision 30 COM 8B.24 on the nomination of the Hirkan Forests of Azerbaijan, Azerbaijan under, then, criterion (iv). In its decision the 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.

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1. DOCUMENTATION

a) Date nomination received by IUCN: 25 March 2018.

b) Additional information officially requested from and provided by the State Parties: Following the IUCN World Heritage Panel a progress report was sent to the State Party on 20 December 2018. This letter advised on the status of the evaluation process and sought responses/clarifications on a range of issues including the need to clarify the legal protection status of each one of the different component parts of the nominated property; to confirm which species are recorded inside the component parts of the nominated property; to provide clear maps indicating the current road network in or near the existing components, as well as maps indicating planned infrastructure; to confirm the status, plans and timeline to close the highway in the buffer zone between components 1 and 2 in Golestan National Park; to confirm the State Party's commitment to complete an Environmental Impact Assessment for the upgrading of the road outside the nominated property, around the outer border of Golestan, which will replace the current highway; and to confirm the plans and timeline to develop a comprehensive plan for sustainable tourism in Golestan National Park. The State Party submitted additional information on 28 February 2019.

c) Additional literature consulted: Various sources, including: Akhani, H., Djamali, M., Ghorbanalizadeh, A. & Ramezani, E. (2010). Plant biodiversity of Hyrcanian relict forests, N Iran: an overview of the flora, vegetation, palaeoecology and conservation. *Pakistan Journal of Botany*, 42 (Special Issue):231-258; BirdLife International. (2018). BirdLife Data Zone. Available at: http://datazone.birdlife.org/site/factsheet/lisar-protected-area-iba-iran-islamic-republic-of (accessed in October 2018); Borhani., A. et al. (2010). 'Diversity and distribution of macro fungi associated with beech forests of Northern Iran (case study Mazandaran Province)', *World Applied Sciences Journal*. IDOSI, 11(2):151–158; CEPF (2018a). Caucasus - Species | CEPF. Available at: https://www.cepf.net/our-work/biodiversity-hotspots/caucasus/species (accessed in October 2018); CEPF (2018b). Irano-Anatolian | CEPF. Available at: https://www.cepf.net/our-work/biodiversity-hotspots/irano-anatolian (accessed in October 2018); Ghoddousi A. et al. (2017). The decline of ungulate populations in Iranian protected areas calls for urgent action against poaching. *Oryx*:1-8; IUCN (2006). Technical Evaluation, Hirkan Forests of Azerbaijan (Azerbaijan) – ID No. 1212; Pour, M.J., Mohadjer, M.R., Etemad, V. & Zobeiri, M. (2012). Effects of grazing on natural regeneration of tree and herb species of Kheyroud forest in northern Iran, *Journal of Forestry Research*, 23(2):299−304; Müller, J. et al. (2005). Urwald relict species - Saproxylic beetles indicating structural qualities and habitat tradition. Waldökologie Online, 2:106-113; Naqinezhad, A., Moradi, H. & Zarezadeh, S. (2011). Plant diversity of Hyrcanian forests, N Iran, toward a vegetation classification; Sanei, A. & Zakaria, M. (2011). Distribution pattern of the Persian leopard (*Panthera pardus saxicolor*) in Iran. *Asia Life Sciences* (Suppl. 7):7-18; Scharnweber, T., Rietschel, M. & Manthey M. (2007). Degradation stages of the Hyrcanian forests in southern Azerbaijan, *Archiv für Naturschutz und Landschaftsforschung*, Institute of Botany und Landscape Ecology, Greifswald University; Schmitt, C.B., et al. (2009). Global Ecological Forest Classification and Forest Protected Area Gap Analysis Analyses and recommendations in view of the 10% target for forest protection under the Convention on Biological Diversity (CBD). Available at: https://www.cbd.int/forest/doc/forest-gap-analysis_2009_2nd ed.pdf (accessed in October 2018); Siadati, S. et al. (2010). Botanical diversity of Hyrcanian forests: a case study of a transect in the Kheyrud protected lowland mountain forests in northern Iran. 18:1-18; Sperber, G. (1999). Forstliche Reiseeindrücke aus dem Iran – Begegnung mit der Wiege unserer Wälder. In: Suda, M. et al.: Waldökosysteme und Schalenwild. Ökologischer Jagdverein, 92-135; Tohidifar, M. et al. (2016). Biodiversity of the Hyrcanian Forests. A synthesis report; Zarandian, A. et al. (2016). Anthropogenic Decline of Ecosystem Services Threatens the Integrity

of the Unique Hyrcanian (Caspian) Forests in Northern Iran. *Forests*, 7:51; Zare, H. et al. (2011). Eighteen mosses from the Hyrcanian forest region new to Iran. *Journal of Bryology* 33(1):62-65.

d) Consultations: 9 desk reviews received. The mission met with a wide range of officials and stakeholders national and regional authorities, local municipalities and the civil society. Extensive consultation occurred with over 30 national, regional and local organizations and stakeholders; national, regional and local representatives from the 3 authorities responsible of the management of the site (Cultural Heritage, Handicrafts, and Tourism Organization/ICHHTO, Forests, Range and Watershed Management Organization/FRWO and Iranian Department of Environment (DoE); site managers of each of the nominated property's 15 components; and local community representatives (Afratakteh, Partekoola, Rashi and Soost), as well as many villagers and local NGOs.

e) Field Visit: Susanna Lindeman and Hervé Lethier, 22-30 October 2018

f) Date of IUCN approval of this report: April 2019

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 850 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.

The nominated site is a serial site with 15 components (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. Totally, around 7% of the remaining Hyrcanian Forests in Iran (1,850,000 ha), has been included in the nomination. The components have been selected meticulously and they represent examples of the various stages and features of the Hyrcanian Forest ecosystems. One component (Kojoor, No. 10) is located on the coastal plain and includes a unique lowland forest ecosystem (swamp-forests). All other components 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, a fact supported by figures in the dossier claiming 51% of the site to be mountainous and 41% to be hilly. All components are surrounded by buffer zones and six of them (Nos. 1,2,3,4,8 and 9) are configured into 3 clusters with adjoining buffer zones.

Nr	Component	Core area (ha)	Buffer zone (ha)
1	Golestan (North)	17 873,2	64 300,8
2	Golestan (South)	10 658,1	
3	Abr (East)	6 672,5	23 323,4
4	Abr (West)	10 991,1	
5	Jahan Nama	11 339,7	26 862,8
6	Boola	17 516,5	12 344,2
7	Alimestan	394,3	846,0
8	Vaz (East)	2 218,2	3 720,2
9	Vaz (West)	4 692,4	
10	Kojoor	14 891,8	9 628,5
11	ChaharBagh	6 886,4	2 663,8
12	Khoshk-e-Daran	214,5	39,1
13	Siahroud-e-Roudbar	11 197,4	15 897,4
14	Gasht Roudkhan	10 541,1	16 015,4
15	Lisar	3 397,6	1 487,4
Total area (ha)		**129 484,7**	**177 128,8**

Table 1: Nominated property components and buffer zone areas.

The nominated property 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 climate, 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 plants 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 and 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. Apart from this continuous forested belt shared between 3 provinces (Gilan, Mazandaran and Golestan), there are some smaller forests ecosystem rich in Hyrcanian species remaining in Azerbaijan and a few patches only with scrub forests in Turkmenistan. However, 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 birds 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 nomination dossier included a comparative analysis which only partially justified the globally significant values of the nominated property. This analysis did not adequately provide data and arguments for the selection of the 15 components within the Hyrcanian ecoregion, a weakness due to gaps in the species data available for the property itself when compared to the wider Hyrcanian Region. Additional information provided by the State Party offered a convincing rationale for component selection based on forest type diversity and additional evidence was given of species records within the different components. However, IUCN considers this data is still not fully conclusive due to species data not being available in a detailed and comprehensive format.

Additional spatial analysis and literature review undertaken by IUCN concludes clearly that the biodiversity that characterises the nominated property is of global significance. The nominated property overlaps with two terrestrial biodiversity hotspots (Caucasus and Irano-Anatolian) which are not well represented on the World Heritage List, with only one existing property within each; it is also found in a terrestrial priority ecoregion (Caucasus-Anatolian-Hyrcanian Temperate Forests), where only one site is found, and in the Hyrcanian Forests Centre of Plant Diversity which is not yet represented on the World Heritage List and has been identified as a gap. Furthermore the nominated property is situated in the terrestrial ecoregions (Caspian Hyrcanian Mixed Forests and Elburz Range Forest Steppe) which are also not currently represented on the World Heritage List. The Hyrcanian Forests overlaps with a protected area listed amongst the top 0.8% most irreplaceable in the world for the conservation of mammal, bird and amphibian species, and the top 0.9% in terms of threatened species. The Hyrcanian Forests hosts globally important examples of relic tree species and a high level of plant endemism. It contains a high proportion of species found in the two biodiversity hotspots where it is located. It has a high level of plant diversity compared to existing World Heritage forest sites found in the same biome. Notable mammal species include the globally threatened Persian leopard and Wild Goat. The site also overlaps with the Lisar Protected Area IBA.

With regards to criterion (ix) and, although it is nominated only for the Iranian part, the property does cover most environmental features and ecological values of the whole Hyrcanian Region. The most important and key environmental processes illustrating the genesis of those forests (e.g. succession, evolution, speciation) are still present and functioning at the site level. Although the components are separated from each other, there are still strong ecological connections between all components at the Hyrcanian forest region level (with an exception for the Khoshk-e-Daran component No. 12, which is an isolated swamp forest). This allows most species to roam across the whole forested massif.

With regards to criterion (x), the components still 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 the various components should in several cases be clarified by the State Party. The nominated property has potential to meet criterion (x) but there is a need to detail which species are found in which component of the nominated property to better understand the rationale for the inclusion of the existing 15 components under this criterion.

4. INTEGRITY, PROTECTION AND MANAGEMENT

4.1. Protection

The State Party provided additional information outlining the legal protection of the nominated property as a whole given that the boundaries of the components do not align with legally protected areas. This confirmed that every component is strictly protected by national legislation (Nature Conservation and/or Forest Acts), wherever it is inside or partially outside existing protected areas.

Public access and utilization of the area is legally regulated in all components; logging, grazing, hunting, vehicle traffic and most other uses and activities that may potentially impact the property are forbidden or strictly regulated. However, there is a strong need for a more strict and operational enforcement of the existing regulations as the nominated property shows evidence of past and current impacts from uses such as seasonal grazing and wood collecting which are, in theory, strictly forbidden. The State Party is encouraged to work collaboratively with local people to sustainably regulate grazing activities and seasonal/permanent settlements within all component parts, and minimize discernible negative impacts from grazing within the buffer zones. Consideration should be given to removing current seasonal grazing and logging settlements, from all components, within a reasonable time, and to manage those located in the buffer zones so as the relevant uses and activities neither degrade further, directly and indirectly, the site's integrity or threaten values. Priority should be given to Siaroudh-e-Roundbar (13), Gasht Roudkan

(14) and Kojoor (10) components, where anthropogenic pressure seems to be the highest.

All components 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 (12), being the only one isolated as a result of human settlements and agriculture, but important to retain in the nominated priority due to it protecting a very rare type of remnant ecosystem contributing to illustrate the high diversity of the Hyrcanian Forest. Species overlaps occur between the components which also complement each other with different species composition, depending on variations in climate, geology, soil type and elevation.

IUCN considers that the protection status of the nominated property meets the requirements of the Operational Guidelines.

4.2 Boundaries

The components' boundaries and those of their buffer zones, are clearly defined on maps; in general, they use natural features such as rivers, ridges, ecotones. They exclude larger settlements and most degraded ecosystems and include the main ecotones and transition zones that contribute to the nominated property's biodiversity interest, allow the natural evolution of the ecosystems and enhance resilience to climate change. In one case, Khoshk-e-Daran, the boundaries look rather artificial but the establishment of a larger component and/or buffer zone would be challenging, the surrounding lands being privately owned; since this swamp-forest remnant seemed to be in good ecological condition, implementing a sustainable agricultural management and monitoring program, at the watershed level, would be a more feasible and wise solution

The site's components overlap sometimes only partially the existing protected areas and their boundaries do not follow always those of these legally protected areas. The State Party indicated to the mission and intention to take the opportunity of the inscription on, the World Heritage List to improve the existing protected area boundaries so as to better include key values. IUCN recommends changes to the protected area boundaries to align with the property should it be inscribed. In all cases, the State Party should be urged to mark clearly the component's boundaries on the ground.

IUCN considers that the boundaries of the nominated property meet the requirements of the Operational Guidelines.

4.3 Management

The management of the property's components 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). The cooperation between these organizations is functioning well and the management structure and system established at the component's level, appears to be satisfactory and meeting acceptable standards.

A coordination mechanism has also been established across the whole serial property involving the three responsible institutions who have been engaged at all stages of the nomination process. This mechanism should guarantee full comprehensive management of the site in the future, based on a common view and funding.

The mission were informed that each component already has a management plan; but was not able to check these plans and the status of each is unclear and when they will need to be updated. However, the whole management system as presented in the nomination dossier may be considered as satisfactory and meeting World Heritage requirements. A "*master management plan*" for the whole property is being prepared jointly by the responsible management institutions, in cooperation with Ministries, universities and NGOs. This management framework will be supervised by a National Steering Committee. The process and timetable for preparing this master management plan still needs to be clarified.

It is important to note that the organizations mentioned above are also responsible for land-use and planning in the whole Hyrcanian Forest Region and they are very well aware of the importance of managing the whole region in a sustainable manner. An overall management plan "*for sustainable development of rural areas*" is already in place, targeting all villages in the Hyrcanian Region and reportedly adequately funded. Additional funding is promised by the State Party to be prioritized for the nominated property should it be inscribed on the World Heritage List. In the future, the State Party should target this funding toward village areas around the property components and to activities that address the main issues identified above, grazing, logging, traffic on roads, as well as sustainable tourism development, that might potentially threaten the site.

For the future, the State Party should also be recommended to develop a monitoring program focused on the attributes of Outstanding Universal Value. It should also be urged to develop urgently, fund and implement a sustainable grazing management program/mechanism for the whole Hyrcanian forest region, with clear commitments to enforce regulations within the components and to minimize its potential impacts in buffer zones so as to sustain the site's OUV. It should also be urged to complete the "*Hyrcanian forest tourism plan*" currently in progress; a substantive chapter of this plan should be dedicated to the Golestan National Park which is a key component of the nominated site for tourism.

In addition a land use planning program should be developed around the Khoshk-e-Daran component, at the watershed level, fully compatible with the preservation of the ecological values and natural

processes of this component. The highway crossing the Golestan National Park is also recommend to be closed within 3 years, according to the planned timeline, and an EIA should be completed for up-grading the existing road outside this component, to replace the current highway.

IUCN considers that the management of the nominated property meets the requirements of the Operational Guidelines.

4.4 Community

The ethnicity of the population living in the buffer zones or nearby or, seasonally, within some components is not presented in the nomination dossier nor is there information provided on the consultation process with the local stakeholders. However, since the national organizations responsible for the nomination also have responsibility for regional and local level services, it looks evident, and was especially observed by the mission, that all levels of stakeholders have been involved in the process, including municipalities and local NGOs. The mission met with local community representatives (Afratakteh, Partekoola, Rashi and Soost), as well as many villagers and did not detect any opposition or misunderstanding regarding the nomination, although it is likely that the level of awareness regarding what World heritage means is limited. Similarly no evidence of rights violations were reported or observed by the field mission.

The government started to relocate settlements and livestock from the Hyrcanian mountain range and forests to the central plain in the 1990s. It is understood that this involved a limited number of people and the mission did not detect any concerns from local people during the field visit. It is important to note that this earlier relocation was not undertaken due to the World Heritage nomination but as a response of the State Party to reduce human pressure on forests and to enhance a more sustainable development in the whole mountain area.

Several reforms have also been implemented such as providing villages with gas, to make the rural population less dependent on fire wood and other natural forest resources. The impacts on local people caused by wildlife (wolf, bear and leopard) are also compensated by an insurance system which appears to be functioning well.

4.5 Threats

The forest areas nominated are the remnants of very diverse types of forest ecosystems which characterize the whole Hyrcanian broadleaf forest however have been widely degraded over time in the region and are currently under high and growing pressure. This Hyrcanian Forest is more and more fragmented. The 15 components selected and which are strictly protected are the mostly difficult to access and have been selected as the best and sometimes unique existing samples of this relict forest. Whilst the integrity of some components or parts of them may have suffered from past use impacts are considered reversible, thanks to the forest resilience and to more recent decisions taken by the State Party to reduce human pressure on the forest. Overall the nominated property's value has not been compromised and the natural processes remain functional. Similarly, no key species characteristic from the region, is known to have disappeared irreparably, to date, because of these degradations.

In summary, the main potential threats identified for the Hyrcanian Forests include unsustainable grazing within the components and overgrazing in their buffer zones; illegal logging and deadwood collection; an unregulated access system with vehicle traffic on forest roads; poaching; and unsustainable tourism. Climate change may also be noted as a potential threat, for example, through changes in precipitation and cloud cover patterns.

In conclusion, IUCN considers that the integrity, protection and management status of the nominated property meets the requirements of the Operational Guidelines, however, law enforcement within the site's components should be improved drastically, especially regarding the collection of forest products and grazing activities. All asphalted and unsealed roads should also be closed physically at the entrance of each component, and vehicle traffic on those roads should be strictly limited to the site's management and research activities, as well as in case of emergency.

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 around one thousand kilometers from the border of 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 treeline. This serial approach is also desirable to illustrate all environmental processes which drive evolutionary processes temporally and spatially. The components selected encompass the widest 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 (Decision 30 COM 8B.24). IUCN recommends that a finite serial site for the Hyrcanian Forest be created through future extension to other areas located in Azerbaijan.

b) Are the separate component parts of the nominated property functionally linked in relation to the requirements of the Operational Guidelines?
As stated above, all components - except Khoshk-e-Daran - may be considered as ecologically interconnected. The key ecosystems and their distribution are still widely spread over the whole forest

range and represented in the nominated serial property. Thus, the ecological processes which underpin the claims under criterion (ix) are still working, however, these processes could be improved with enhanced and coordinated protection and management.

c) Is there an effective overall management framework for all the component parts of the nominated property?
As noted above, a Master Management Plan for the whole property is in preparation. Furthermore, the management of the nominated property will be supervised by a National Steering Committee with members from all reasonable management institutions, Ministries and UNESCO's National Delegation in Iran.

6. APPLICATION OF CRITERIA

The **Hyrcanian Forests** have been nominated under natural criteria (ix) and (x).

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

IUCN considers that the nominated property meets this criterion.

Criterion (x): Biodiversity and threatened species

The Hyrcanian Region is a typical Arcto-Tertiary relict area with a high diversity of plant species, many of them threatened and/or endemic including species such as *Zelkova carpinifolia*, *Parrotia persica* and *Pterocarya fraxinifolia* amongst many others. The importance of the wider region for fauna is also very strong and well documented. The presence of Persian Leopard is of the highest importance; this leopard population is considered as the source population of this species and the larger Hyrcanian forested massif is the only area worldwide where a population of that species can be seen as viable according to the IUCN criteria. Several components host amongst the highest densities of the Persian Leopard and play a key role for its long-term viability; this is also the case for several other species. However, species data remains patchy and inconclusive as to the occurrence of these species within the nominated property as configured. IUCN therefore concludes that whilst the wider Hyrcanian Region has demonstrable global habitat significance it is not possible to conclude that property meets criterion (x) at this time.

IUCN considers that the nominated property has the potential to meet this criterion; however, further information and data are needed to clarify which species are or are not present in each component and 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/19/43.COM/8B and WHC/19/43.COM/INF.8B2;

2. Recalling Decision 30 COM 8B.24;

3. Inscribes the **Hyrcanian Forests (Islamic Republic of Iran)** on the World Heritage List on the basis of criterion (ix);

4. Adopts the following Statement of Outstanding Universal Value:

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 Iran, within the Caspian Hyrcanian mixed forests ecoregion. It stretches 850 km along the southern coast of the Caspian Sea and covers around 7 % of the remaining Hyrcanian forests in Iran.

The property is a serial site with 15 component parts shared across three Provinces (Gilan, Mazandaran

and Golestan) and represents examples of the various stages and features of Hyrcanian forest ecosystems. Most of the ecological characteristics which characterize 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.

Criteria

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 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 components 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 national legislation. In the case of protected areas through the Nature Conservation Law and for areas outside of the protected areas by Iran's Heritage Law. It will be important to align the boundaries of the existing protected areas to those of the property following inscription on the World heritage List so as to harmonize and streamline the management and protection regime across the site as a whole.

The management of the property's components 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 "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.

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 components and to ensure effective regulation of seasonal grazing and wood collection.

5. Takes note of the potential for this property to also meet criterion (x), and recommends the State Party 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

renomination of the property if the further studies confirm the relevant values are sufficient to meet criterion (x).

6. Requests the State Party to align the boundaries of the existing protected areas to those of the World Heritage property in the near future in order to harmonize and streamline the management and protection regime across the site as a whole.

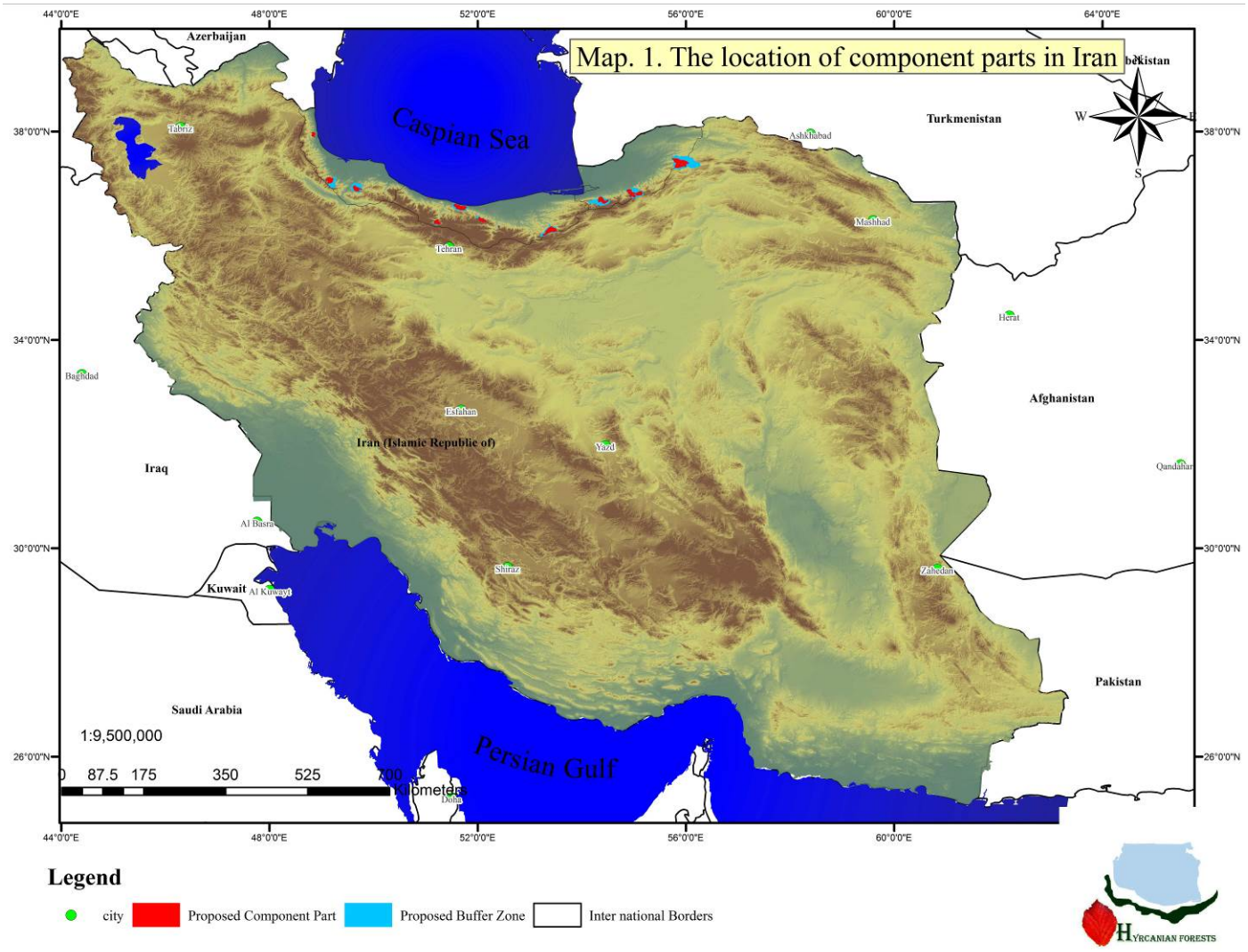
7. Also requests the State Party to adopt fully the *Master Management Plan* for the property as a whole by 2022, and to assure adequate funding is provided, and that comprehensive and detailed measures are in place to:

a) Foster collaborative and participatory approaches to managing the property which respect rights, traditional practices and customs;
b) Work collaboratively with local people to sustainably regulate grazing activities and seasonal/permanent settlements within all component parts, and minimize discernible negative impacts from grazing within the buffer zones;
c) Develop a comprehensive plan on sustainable tourism for the property as a whole, especially in the Golestan National Park, including options to improve access as a means to develop ecologically sustainable tourism;
d) Rationalize the forest road access system within all components to strictly limit vehicular access to site management activities, research and emergency responses.

8. Further requests the State Party to prepare an Environmental Impact Assessment (EIA), consistent with the guidance of the IUCN Advice Note on World Heritage Environmental Assessment, on the proposed upgrading of the existing road in the Golestan National Park with a view to replacing the existing highway, and to provide a copy of this EIA for review by the World Heritage Centre and IUCN on completion, and prior to any decision to proceed with road upgrading.

9. Encourages the States Parties of Iran and Azerbaijan to consider options for further serial and transboundary extension of the property to include other areas in Azerbaijan of internationally significant conservation value, taking into account World Heritage Committee Decision 30COM 8B.24.

Map 1: Location of the nominated property



Map 2: Nominated property and buffer zone