

Rhinoceros unicornis, Greater One-horned Rhino

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Taxonomy

| Kingdom | Phylum | Class | Order | Family |
|----------|----------|----------|----------------|----------------|
| Animalia | Chordata | Mammalia | Perissodactyla | Rhinocerotidae |

Taxon Name: *Rhinoceros unicornis* Linnaeus, 1758

Common Name(s):

- English: Greater One-horned Rhino, Greater Indian one-horned rhinoceros, Great Indian Rhinoceros, Indian Rhinoceros
- French: Rhinocéros unicorne de l'Inde
- Spanish: Rinoceronte Unicornio Índico

Assessment Information

Red List Category & Criteria: Vulnerable B2ab(iii) [ver 3.1](#)

Year Published: 2019

Date Assessed: December 6, 2018

Justification:

The Greater One-horned Rhinoceros populations are increasing overall due to strict protection and habitat management in both India and Nepal. The species is found in 12 sites, with a total area of occupancy less than 2,000 km². Useable habitat changes periodically with monsoon flooding, especially in Kaziranga National Park, Orang National Park, and Pabitora Wildlife Sanctuary. Populations are severely fragmented, and more than 70% of the population is found in Assam's Kaziranga National Park; a catastrophic event there could have a devastating impact on the species. Habitat loss and degradation due to invasion by alien plants into grasslands, grazing, human encroachment and silting up is occurring in part of the species' range,

Previously Published Red List Assessments

2008 – Vulnerable (VU)
<http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T19496A8928657.en>

1996 – Endangered (EN)

1994 – Endangered (E)

1990 – Endangered (E)

1988 – Endangered (E)

1986 – Endangered (E)

1965 – Very rare and believed to be decreasing in numbers

Geographic Range

Range Description:

Historically, the Greater One-horned Rhinoceros once existed across the entire northern part of the Indian subcontinent, along the Indus, Ganges, and Brahmaputra River basins, from Pakistan to the Indian-Burmese border, including parts of Nepal, Bangladesh and Bhutan (Foose and van Strien 1997). It may also have existed in Myanmar, southern China, and Indochina, although this is uncertain. The species was common in northwestern India and Pakistan until around 1600, but disappeared from this region shortly after this time (Rookmaker 1984). The species declined sharply in the rest of its range from 1600-1900, until it was on the brink of extinction at the beginning of the 20th century.

Currently, the Greater One-horned Rhinoceros is found in eight protected areas in India (Kaziranga, Pabitora, Manas, Orang, Jaldapara, Gorumara, Dudhwa, Katarniaghat) and in four protected areas in Nepal (Chitwan, Bardia, Suklaphanta, Parsa) (Foose and van Strien 1997, Ellis, *et al.* 2015, Emslie *et al.* 2016). In India, rhinoceros from Gorumara National Park frequently visit adjoining forests; Nepali rhinos frequently visit adjoining areas in India.

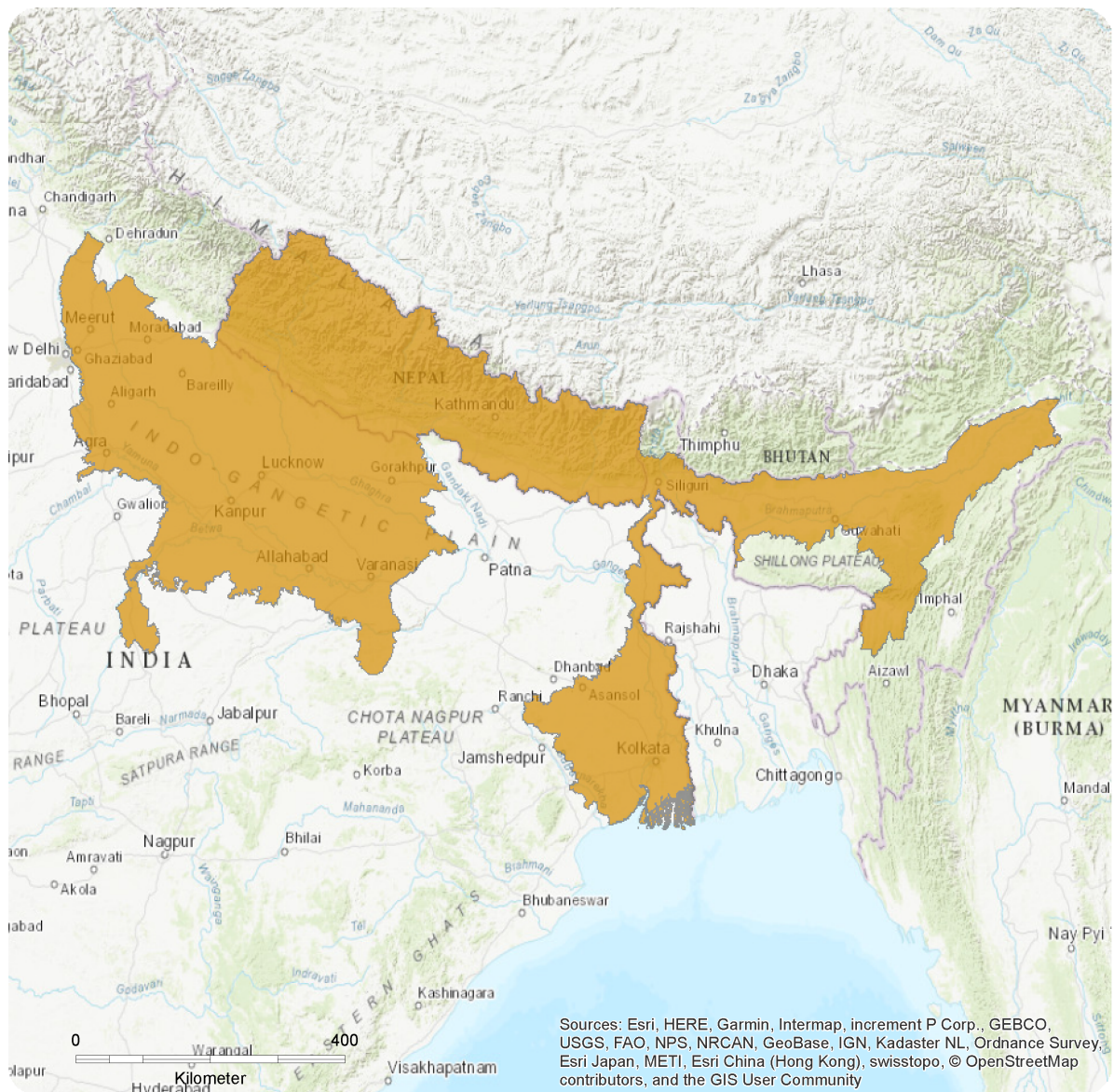
Country Occurrence:

Native: India; Nepal

Regionally extinct: Bangladesh; Bhutan

Distribution Map

Rhinoceros unicornis



Range

Extant (resident)

Compiled by:

IUCN (International Union for Conservation of Nature)



The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.



Population

The total population estimate in August 2018 was estimated to be 3,588 individuals, with estimates of 649 animals in Nepal and 2,939 in India (B. Talukdar pers. comm.). The greater one-horned rhino, with strict protection from Indian and Nepalese wildlife authorities, has recovered from very low numbers in the early 1900s. Only 12 rhinos remained in Kaziranga National Park in 1905; it is unknown how many animals existed in the combined India-Nepal populations at that time. Although some populations have declined in recent years, overall the species has continued to increase for almost 100 years.

India

The species exists in several protected areas in India: Dudhwa National Park, Manas National Park, Katerniaghat Wildlife Sanctuary, Kaziranga National Park, Orang National Park, Pabitora Wildlife Sanctuary, Jaldapara National Park, and Gorumara National Park. Kaziranga National Park, which was established as a reserve for the last 12 Indian rhinos in Assam in 1905, is home to more than 70% of the global population. A population has been re-established in Manas National Park under the Indian Rhino Vision 2020 program (Ellis *et al.* 2015), where greater one-horned rhinos had extirpated in the late 1990s/early 2000s during a civil conflict.

Poaching rendered the species extinct in Laokhowa Wildlife Sanctuary by the mid-1990s (Foose and van Strien 1997). Stray animals are occasionally seen in Laokhowa and Burhachapori Wildlife Sanctuaries. There also were record from Valmiki Reserve in Bihar, which has habitat contiguity with Chitwan National Park (A.U. Choudhury, pers. comm.). The population in Katerniaghat is best described as transient (S.S. Bist, pers. comm.).

Nepal

In the late 1960s, an estimated 65 Indian rhinos survived in Nepal, but due to increased conservation efforts, the total population grew to 649 in 2018. During a period of insurgency from 2000-2003, at least 91 animals were poached (Martin 2004) but poaching rates have significantly decreased within the last decade. In Royal Chitwan National Park, the population declined from 544 individuals in 2000 to 372 individuals in 2005 (IUCN SSC Asian Rhino Specialist Group 2007), but has since rebounded to 592 in 2018. In Royal Bardia National Park (where rhinos were re-introduced) there were approximately 40 individuals in 1997 (Foose and van Strien, 1997) and 37 animals in 2007 (IUCN SSC Asian Rhino Specialist Group 2007). The population reached a low of 17 animals in the early 2000s, but by 2018 has grown to roughly 30 individuals, including five animals translocated from Royal Chitwan National Park in 2016-2017. In Royal Suklaphanta Wildlife Reserve (where the species was also re-introduced), the population was only six individuals (Martin 2004, IUCN SSC Asian Rhino Specialist Group 2007) but by August 2018 had grown to 17, including two rhinos translocated in 2016-2017 from Royal Chitwan National Park. There is a tiny population in Parsa.

Current Population Trend: Increasing

Habitat and Ecology (see Appendix for additional information)

The species inhabits the riverine grasslands of the Terai and Brahmaputra Basins (Foose and van Strien 1997). The species prefers these alluvial plain grasslands, but was known to occur in adjacent swamps and forests. The populations are currently restricted to habitats surrounded by human-dominated landscapes, so that the species often occurs in adjacent cultivated areas, pastures, and secondary

forests. The diet includes mainly grasses, but also some fruit, leaves, shrub and tree branches, and cultivated crops (Nowak 1999). Greater One-horned Rhinos also regularly utilize mineral licks. Males are solitary, with unstructured, overlapping territories. Females are solitary unless they have a calf. Calves remain with their mother for 3-4 years.

Its life history characteristics are not well known, with longevity estimated at 30-45 years, gestation length of approximately 16 months (as with other rhino species), and age at sexual maturity estimated at 5-7 years for females and 8-10 years for males (Nowak 1999, International Rhino Foundation website 2018).

Systems: Terrestrial, Freshwater

Use and Trade

This species is harvested illegally for its horn and other products used in Traditional Asian Medicine and as a status symbol in Vietnam and China. Myanmar has become the transit route for horn coming from India and Nepal.

Threats (see Appendix for additional information)

The Greater One-horned Rhinoceros declined to near extinction in the early 1900s, primarily due to widespread conversion of alluvial plains grasslands to agricultural development, which led to human-rhino conflicts and easier accessibility for hunters. Sport hunting became common in the late 1800s and early 1900s. A reversal of government policies shortly thereafter protected many of the remaining populations. However, poaching, mainly for the use of the horn in Traditional Asian Medicine, has remained a constant threat and the success is precarious without continued support for conservation efforts in India and Nepal. Past poaching led to declines in several important populations, especially those in Chitwan, Manas, Laokhowa, and the Babai Valley area of Bardia, but in the past 5 years, poaching has decreased and the populations in these areas are increasing (except for Laokhowa Wildlife Sanctuary).

However, not all recent population decreases can be linked to poaching. There have been serious declines in quality of habitat in some areas. This is due to: 1) severe invasion by alien plants into grasslands affecting some populations; 2) demonstrated reductions in the extent of grasslands and wetland habitats due to woodland encroachment and silting up of beels; and 3) grazing by domestic livestock. In Chitwan National Park (the second largest population), poaching alone does not account for the observed level of population decline (R.H. Emslie pers. comm.), and there are trends in a number of reproductive indicators (i.e., decline in the percentage of adult females calving and in the percentage of the population that is calves) that are strongly indicative of negative changes in habitat quality. In Chitwan, there has been severe infestation of some riverine and grassland areas by the climbing *Mikania micrantha* (which covers over indigenous vegetation), and invasion of *Eupatorium* in other areas (Murphy, et al., 2013). There is also heavy livestock grazing pressure and disturbance in buffer zone areas as well as some invasion of grasslands by *Acacia catechu* and *Dalbergia sissoo*.

In India, there is not yet any evidence that invasion by alien plants has caused any population decreases. However, in Orang National Park, there have been marked habitat changes due to grazing, human encroachment and silting up. In particular, short grass areas have declined by 75% due to silting up and

draining of *beels*, lake-like wetlands with static water (B.N. Talukdar, pers. comm.). *Mimosa* is also an alien invader in this area. In the Karnali floodplain area of Bardia there is also some invasion of habitat by the alien *Lantana camara*.

In Pabitora, there has been an invasion of *Ipomoea* spp. "weeds" and *Parthenium* spp. into grassland areas (S. Dutta, pers. comm.). There also has been an invasion of woodland into grassland and siltation and drying up of some water bodies. There also has been some human encroachment and very heavy livestock grazing. With increasing human densities this pressure is unlikely to get any less (S. Dutta pers. comm.). Analysis of satellite imagery has shown that there has a substantial increase in woodland (34.51%) in Pabitora since 1977 accompanied by decline in alluvial grassland (68%) (Sarma *et al.* 2009). This change of habitat is mostly because of natural succession process, livestock grazing from the nearby villages as well as improper management of the grassland habitat (Sarma *et al.* 2009).

The West Bengal populations (Jaldapara and Gorumara) are affected by high levels of grazing from fringe villages, and there have been weed and climber infestations by *Mikania cordata*, *M. scandens*, *Lantana camara*, *Christella dentata*, and *Leea* spp.

The species is inherently at risk because over 70% of its population occurs at a single site, Kaziranga National Park. This area, is subject to poaching and tensions with the surrounding high human population due to human-wildlife conflicts (including conflicts with rhinos). The level of poaching in Kaziranga has generally not been at a level to prevent the ongoing increase in the population, but constant vigilance is required. At least 12 rhinos were lost in the July 2019 monsoon floods, and numerous calves were rescued. Any severe catastrophic event in Kaziranga (such as disease, civil disorder, poaching, habitat loss, etc.) would have a devastating impact on the species.

During surveys carried out in February 2019, Jaldapara and Gorumara reported figures of 231 and 52 rhinos respectively - the highest numbers recorded during the last 100 years. There are suggestions that the two protected areas have reached their carrying capacities and suitable areas need to be found for the West Bengal populations. A male:female:unknown sex ratio of 3.8:1 has been reported in the Gorumara population based on dung DNA analysis (Borkathur, *et al.* 2016). As a result, fights among bulls are very common and these animals often stray out of the National Park, leading to human-wildlife conflicts (S. S. Bist, pers. comm).

There are suggestions that the small population of rhinos in Jaldapara and Gorumara may be prone to inbreeding depression (S.S. Bist, pers. comm.).

There have been proposals to dam the Bramaphutra River in Arunachal Pradesh, and should this happen in future things could very negatively affect the habitat quality and rhino carrying capacity of major parks like Kaziranga in future (by preventing or reducing the pulse of nutrients brought in by regular large floods). In Jaldapara National Park, the River Torsa no longer overflows as a result of massive flood-control structures. As a result the water table in Jaldapara National Park is receding and the natural water-bodies and wallow-pools used by rhinos are slowly drying up (S.S. Bist, pers. comm).

Conservation Actions (see Appendix for additional information)

The species has been included on CITES Appendix I since 1975. The Indian and Nepalese governments have taken major steps towards Greater One-horned Rhinoceros conservation, often with assistance

from non-governmental organizations.

Greater One-horned Rhino populations occur almost exclusively within and around Protected Areas. In India, the species occurs in Kaziranga National Park (World Heritage Site), Manas National Park (World Heritage Site), Dudhwa National Park (re-introduced population), Katarniaghat Wildlife Sanctuary, Orang National Park, Pabitora Wildlife Sanctuary, Jaldapara Wildlife Sanctuary, and Gorumara National Park. In Nepal, the species occurs in Royal Chitwan National Park, Royal Bardia National Park (re-introduced population), and Royal Suklaphanta Wildlife Reserve (a small re-introduced population). Stray rhinos are recorded in Laokhowa Wildlife Sanctuary, Burhachapori Wildlife Sanctuary, and Valmiki Tiger Reserve (A.U. Choudhury pers. comm).

Strict anti-poaching measures are needed to maintain all of these populations. It is also important to reduce human-wildlife conflicts around these areas, and this might involve fencing. Many of the areas also require targeted programmes to control invasive plants, to prevent the spread of woodland, to safeguard wetlands through appropriate water management, and to limit the extent of grazing by domestic livestock. In Pabitora, specific recommendations have been made to increase the quality of feeding habitat of rhino within the sanctuary through meticulous manipulation and checking livestock grazing (Sarma *et al.*, 2009). Water holding mechanisms within the sanctuary during winter are crucial in terms of keeping moist grassland available in winter seasons, thereby reducing the number of rhinos straying out of the sanctuary and thus exposing themselves to poaching (Sarma *et al.* 2009).

The Indian Union Ministry of Environment, Forests and Climate Change has embarked on a project to create DNA profiles of all the country's rhinos in collaboration with WWF-India and the Wildlife Institute of India (S.S. Bist pers. comm).

The area of Kaziranga National Park has officially been extended, although animals had access to this area previously as the original park area was not fenced. In West Bengal (Jaldapara and Gorumara), there is a programme of habitat improvement in old teak areas, weed control is being carried out in 50-60 ha annually.

Grasslands in India are being improved through controlled burning and planting of fodder species. Artificial wallow and water conservation structure have been created. Jaldapara Wildlife Sanctuary had been upgraded to a National Park in 2012. The government of West Bengal has been developing an 21-km² site in Coochbehar District to accommodate surplus animals from Jaldapara and Gorumara National Parks, and other sites are being considered (S.S. Bist pers. comm.).

With the support of the IUCN SSC Asian Rhino Specialist Group, Indian Rhino Vision 2020 and a Nepal Rhino Action Plan (Government of Nepal 2006) have been developed. These cover a number of important and specific conservation measures, including translocating rhinos to bolster struggling populations and to start new populations (e.g., Manas National Park); improving security around rhino populations and reducing poaching; assessing habitat status and management needs; expanding available habitat through active management; improving protected area infrastructure; training staff in specific rhino conservation techniques; reducing human-wildlife conflicts; involving local people in rhino conservation; and implementing education and awareness programmes. Overall, there is a need for further reintroductions, thereby reducing the concentration of more than 70% of the individuals in one large population.

To further strengthen rhino protection in Assam, the government amended the Wildlife Protection Act - 1972 in 2009 with increased sentences and fines for poaching rhinos. Further, 12 fast-track courts have been designated in 12 districts of Assam to speed up cases related to wildlife species, specifically rhinos.

Credits

Assessor(s): Ellis, S. & Talukdar, B.

Reviewer(s): Choudhury, A. & Bist, S.S.

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Appendix

Habitats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

| Habitat | Season | Suitability | Major Importance? |
|-------------------------------------------------------------------------------------------------------------|--------|-------------|-------------------|
| 1. Forest -> 1.5. Forest - Subtropical/Tropical Dry | - | Marginal | - |
| 1. Forest -> 1.6. Forest - Subtropical/Tropical Moist Lowland | - | Marginal | - |
| 4. Grassland -> 4.6. Grassland - Subtropical/Tropical Seasonally Wet/Flooded | - | Suitable | Yes |
| 5. Wetlands (inland) -> 5.4. Wetlands (inland) - Bogs, Marshes, Swamps, Fens, Peatlands | - | Suitable | Yes |
| 5. Wetlands (inland) -> 5.7. Wetlands (inland) - Permanent Freshwater Marshes/Pools (under 8ha) | - | Suitable | Yes |
| 5. Wetlands (inland) -> 5.8. Wetlands (inland) - Seasonal/Intermittent Freshwater Marshes/Pools (under 8ha) | - | Suitable | Yes |

Threats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

| Threat | Timing | Scope | Severity | Impact Score |
|-----------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------|----------|--------------|
| 1. Residential & commercial development -> 1.1. Housing & urban areas | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |
| 11. Climate change & severe weather -> 11.4. Storms & flooding | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |
| 2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.2. Small-holder farming | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |
| 2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.2. Small-holder grazing, ranching or farming | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |
| 4. Transportation & service corridors -> 4.1. Roads & railroads | Ongoing | - | - | - |
| | Stresses: | 2. Species Stresses -> 2.1. Species mortality | | |
| 4. Transportation & service corridors -> 4.2. Utility & service lines | Ongoing | - | - | - |

| | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------|---|---|
| | Stresses: | 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |
| 5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.1. Intentional use (species is the target) | Ongoing | - | - | - |
| | Stresses: | 2. Species Stresses -> 2.1. Species mortality | | |
| 6. Human intrusions & disturbance -> 6.2. War, civil unrest & military exercises | Ongoing | - | - | - |
| | Stresses: | 2. Species Stresses -> 2.2. Species disturbance | | |
| 7. Natural system modifications -> 7.2. Dams & water management/use -> 7.2.11. Dams (size unknown) | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |
| 8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Unspecified Leea) | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |
| 8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Unspecified Ipomoea) | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |
| 8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Unspecified Eupatorium) | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |
| 8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Mikania scandens) | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |
| 8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Mikania micrantha) | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |
| 8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Lantana camara) | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |
| 8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Dalbergia sissoo) | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |

| | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------|---|---|
| 8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Acacia catechu) | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |
| 8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Mikania cordata) | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |
| 8. Invasive and other problematic species, genes & diseases -> 8.2. Problematic native species/diseases -> 8.2.1. Unspecified species | Ongoing | - | - | - |
| | Stresses: | 1. Ecosystem stresses -> 1.2. Ecosystem degradation | | |

Conservation Actions in Place

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

| |
|-------------------------------------------------------------|
| Conservation Actions in Place |
| In-Place Research, Monitoring and Planning |
| Action Recovery plan: Yes |
| Systematic monitoring scheme: Yes |
| In-Place Land/Water Protection and Management |
| Conservation sites identified: Yes, over entire range |
| Occur in at least one PA: Yes |
| Percentage of population protected by PAs (0-100): 91-100 |
| Area based regional management plan: No |
| Invasive species control or prevention: Yes |
| In-Place Species Management |
| Harvest management plan: No |
| Successfully reintroduced or introduced benignly: Yes |
| Subject to ex-situ conservation: Yes |
| In-Place Education |
| Subject to recent education and awareness programmes: Yes |
| Included in international legislation: Yes |
| Subject to any international management/trade controls: Yes |

Conservation Actions Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

| Conservation Actions Needed |
|----------------------------------------------------------------------------------|
| 1. Land/water protection -> 1.1. Site/area protection |
| 2. Land/water management -> 2.1. Site/area management |
| 2. Land/water management -> 2.3. Habitat & natural process restoration |
| 3. Species management -> 3.1. Species management -> 3.1.1. Harvest management |
| 3. Species management -> 3.1. Species management -> 3.1.2. Trade management |
| 3. Species management -> 3.3. Species re-introduction -> 3.3.1. Reintroduction |
| 4. Education & awareness -> 4.1. Formal education |
| 4. Education & awareness -> 4.2. Training |
| 4. Education & awareness -> 4.3. Awareness & communications |
| 5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.1. International level |
| 5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.2. National level |

Research Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

| Research Needed |
|---------------------------------------------------------------|
| 1. Research -> 1.2. Population size, distribution & trends |
| 1. Research -> 1.3. Life history & ecology |
| 1. Research -> 1.5. Threats |
| 2. Conservation Planning -> 2.1. Species Action/Recovery Plan |
| 3. Monitoring -> 3.1. Population trends |
| 3. Monitoring -> 3.4. Habitat trends |
| 0. Root -> 4. Other |

Additional Data Fields

| Distribution |
|------------------------------------------------------------------|
| Estimated area of occupancy (AOO) (km ²): 1959 |
| Continuing decline in area of occupancy (AOO): No |
| Extreme fluctuations in area of occupancy (AOO): No |
| Estimated extent of occurrence (EOO) (km ²): 1286037 |
| Continuing decline in extent of occurrence (EOO): No |

| |
|-------------------------------------------------------------------|
| Distribution |
| Extreme fluctuations in extent of occurrence (EOO): No |
| Number of Locations: 11 |
| Continuing decline in number of locations: No |
| Extreme fluctuations in the number of locations: No |
| Lower elevation limit (m): 0 |
| Upper elevation limit (m): 415 |
| Population |
| Number of mature individuals: 2100-2200 |
| Continuing decline of mature individuals: No |
| Extreme fluctuations: No |
| Population severely fragmented: Yes |
| No. of subpopulations: 11 |
| Continuing decline in subpopulations: No |
| Extreme fluctuations in subpopulations: No |
| All individuals in one subpopulation: No |
| Habitats and Ecology |
| Continuing decline in area, extent and/or quality of habitat: Yes |
| Generation Length (years): 15 |
| Movement patterns: Not a Migrant |

The IUCN Red List Partnership



The IUCN Red List of Threatened Species™ is produced and managed by the [IUCN Global Species Programme](#), the [IUCN Species Survival Commission \(SSC\)](#) and [The IUCN Red List Partnership](#).

The IUCN Red List Partners are: [Arizona State University](#); [BirdLife International](#); [Botanic Gardens Conservation International](#); [Conservation International](#); [NatureServe](#); [Royal Botanic Gardens, Kew](#); [Sapienza University of Rome](#); [Texas A&M University](#); and [Zoological Society of London](#).