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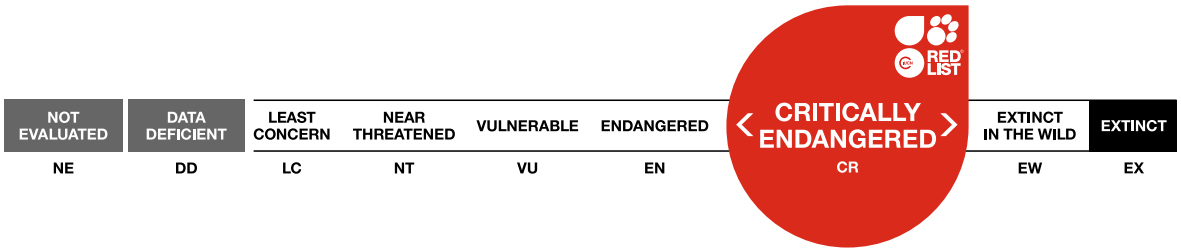
Scope(s): Global
Language: English

Heliopais personatus, Masked Finfoot

Assessment by: BirdLife International



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Aves	Gruiformes	Heliornithidae

Scientific Name: *Heliopais personatus* (Gray, 1849)

Synonym(s):

- *Heliopais personata* (Gray, 1849) — Sibley and Monroe (1990, 1993)
- *Heliopais personata* (Gray, 1849) — BirdLife International (2004)
- *Heliopais personata* (Gray, 1849) — Collar *et al*. (1994)
- *Heliopais personata* (Gray, 1849) — Collar and Andrew (1988)
- *Heliopais personata* (Gray, 1849) — BirdLife International (2000)

Common Name(s):

- English: Masked Finfoot, Asian Finfoot

Taxonomic Source(s):

del Hoyo, J., Collar, N.J., Christie, D.A., Elliott, A. and Fishpool, L.D.C. 2014. *HBW and BirdLife International Illustrated Checklist of the Birds of the World. Volume 1: Non-passerines*. Lynx Edicions BirdLife International, Barcelona, Spain and Cambridge, UK.

Identification Information:

52-54.5 cm. Secretive finfoot. Males have grey hind crown and hindneck, black throat and upper foreneck with white border, black forecrown and line along crown side, thick yellow bill with small horn at base, mostly whitish underparts, brown flanks and undertail-coverts with some whitish bars. Dark brown eyes and bright green legs and feet. Females have whitish throat, upper foreneck and much of lores, less black on forecrown, no horn and yellow eyes. Juvenile is browner above than female, lacks black on forecrown, has less distinct and more mottled black on neck-side and creamy-yellow bill. **Voice** Rather high-pitched bubbling sounds during courtship, possibly followed by clucks.

Assessment Information

Red List Category & Criteria: Critically Endangered C1 ver 3.1

Year Published: 2022

Date Assessed: August 12, 2020

Justification:

This elusive species has an extremely small population, which is rapidly declining as a result of the ongoing loss and degradation of wetlands and especially riverine lowland forest in Asia. It therefore qualifies as Critically Endangered.

Previously Published Red List Assessments

2016 – Endangered (EN)
https://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22692181A93340327.en

https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T22692181A181604713.en

2012 – Endangered (EN)
https://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T22692181A37896315.en

2009 – Endangered (EN)

2008 – Vulnerable (VU)

2004 – Vulnerable (VU)

2000 – Vulnerable (VU)

1996 – Vulnerable (VU)

1994 – Vulnerable (VU)

1988 – Threatened (T)

Geographic Range

Range Description:

Heliopais personatus is patchily distributed across South-East Asia. The species's stronghold is assumed to be the Sundarbans in **Bangladesh**; further records come from **Myanmar** (Htamanthi Wildlife Sanctuary and Chindwin River Basin), **Cambodia** (Tonle Sap Lake, Kulen Promtep Wildlife Sanctuary, Chhep Wildlife Sanctuary and Cardamom Mountains), **Viet Nam** (Yok Don National Park and Kon Cha Rang Nature Reserve) and **Laos** (Xe Pian and Dong Kanthung National Biodiversity Conservation Areas) (Chowdhury *et al*. 2020 and references therein).

Its movements are poorly known; it appears to occur as a migrant in parts of the range. Breeding has been reported from Cambodia, while the species appears to be a non-breeding visitor to Malaysia and Sumatra and resident in the Sundarbans and Myanmar (Neumann-Denzau 2008, Chowdhury *et al*. 2020).

Populations are apparently in steep decline throughout its range such that the species has apparently disappeared from previously occupied sites, and likely also from some of the listed range countries. There are no recent records from its historical range in Assam and Arunachal Pradesh in north-eastern India; however large parts of the area are not well studied (Chowdhury *et al*. 2020). In Myanmar the last record on the Ayeyarwady River was in 2001, despite repeated survey (Zockler *et al.* 2020). Multiple records came from extensive surveys in 2003-05 in Kachin and Sagaing (Tordoff *et al.* 2007), leading to the conclusion that reasonable numbers persisted in the region. Despite regular field presence, camera-trapping and targeted bird surveys, there have been no further records since 2013 (Chowdhury *et al.* 2020). There are no recent (post 2000) records from Laos, and none from Viet Nam since 2002 (Chowdhury *et al.* 2020).

It is the same story for the non-breeding range. The species is only erratically recorded from Malaysia over the past decade, with very few records for at least five years. Likewise there are no records from Thailand since 2012 despite considerable search efforts (Chowdhury *et al*. 2020). Coverage in Malaysia has also increased in recent years, though remains erratic in the riparian areas the species may be using. The last record from Sumatra (Indonesia) dates from 2009, which itself was the first sighting in Indonesia for 16 years (M. Iqbal *in litt.* 2016).

Country Occurrence:

Native, Extant (resident): Bangladesh; Cambodia; Lao People's Democratic Republic; Myanmar; Viet Nam

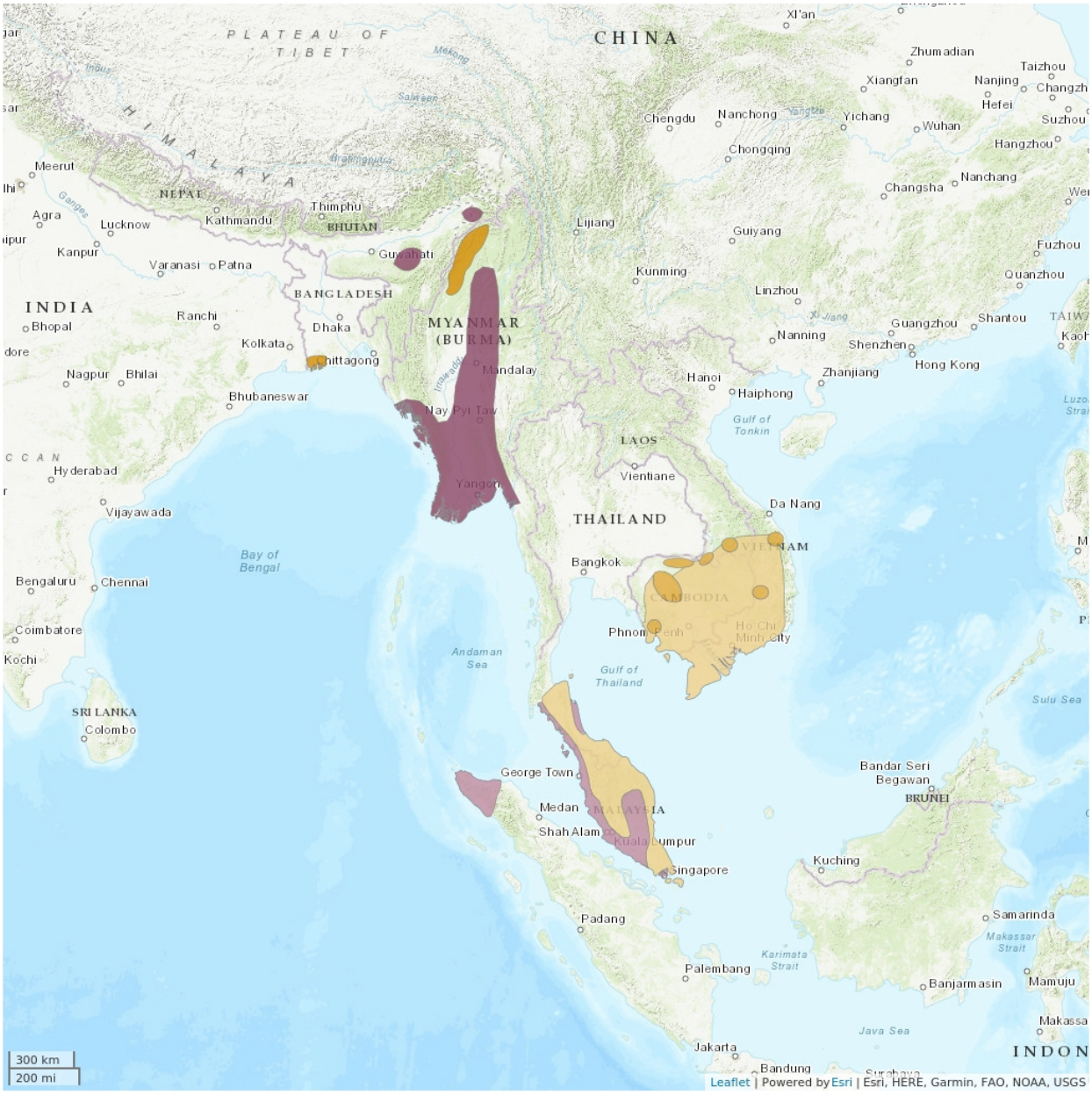
Native, Possibly Extant (resident): India

Native, Possibly Extant (non-breeding): Indonesia

Native, Possibly Extant (passage): Singapore

Native, Possibly Extant: Malaysia; Thailand

Distribution Map



Legend

- EXTANT (RESIDENT)
- EXTANT (BREEDING)
- EXTANT (PASSAGE)
- POSSIBLY EXTANT (RESIDENT)
- POSSIBLY EXTANT (NON-BREEDING)

Compiled by:

BirdLife International and Handbook of the Birds of the World 2022

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 species appears to have declined dramatically and is now known from comparatively few sites, occurring at low densities everywhere. Based on records compiled between 2008 and 2018 for the largest subpopulation in Bangladesh, supplemented with best-guesses derived from published, unpublished and anecdotal information for other sites, the total population is estimated to number 108-304 mature individuals in total (Chowdhury *et al*. 2020 and references therein). National population estimates include 80-160 mature individuals in the Sundarbans in Bangladesh, 12-64 mature individuals in Cambodia, 12-40 mature individuals in Myanmar, 4-30 mature individuals in Laos, 0-6 mature individuals in Viet Nam and 0-4 mature individuals in India (Chowdhury *et al*. 2020 and references therein). These values should however be treated with caution, as in parts of the range suitable habitat remains which has not been fully investigated (Chowdhury *et al*. 2020).

It is here assumed that the species forms several small subpopulations based on its localised distribution across South-East Asia: resident subpopulations in Bangladesh (80-160 mature individuals) and in Myanmar (12-40 mature individuals), and a presumed migratory population breeding in Cambodia, Laos and Viet Nam considered to function as one additional subpopulation of 16-100 mature individuals (Chowdhury *et al.* 2020).

Trend Justification

The species is undergoing very rapid declines throughout its range. Formerly considered widespread across South-East Asia, it has suffered local extinctions in parts of its range, notably in India, Myanmar, Malaysia, Thailand and Indonesia, while the number of recordings in occupied areas has decreased substantially despite intense survey effort (Chowdhury *et al*. 2020). Habitat conversion is considered to be the main driver of the decline, with riverine systems amongst the most disturbed and most degraded environments in South-East Asia.

A comprehensive survey of the largest known population in Bangladesh observed a 36% decrease in nests over just seven years (Chowdhury *et al.* 2017). This is equivalent to an estimated one-generation decline rate of 28%, and a projected rate of 48% over two generations and 62% over three generations (15.3 years). Based on the intensity of threats acting on all populations throughout the range and the assembled evidence of similar rapid reduction and disappearance from virtually the whole range, it is considered that this rate is representative for the global population, or probably even too conservative (Chowdhury *et al*. 2020). As such, it is estimated that the global population is declining at a rate of 60-79% over three generations, and that this rate is expected to continue into the future.

Current Population Trend: Decreasing

Habitat and Ecology **(see Appendix for additional information)**

It occurs principally in rivers in lowland riverine forest including mangroves, but has been recorded in coastal and inland wetlands, such as tidal creeks, flooded forest, swamps and lakes (rarely reservoirs or industrial pools on passage). In the Sundarbans of Bangladesh all records originate from the fresh and brackish waters with no records from the saltwater zone (Gani 2005). Most breeding appears to occur inland while most records are from lowlands, although it has occurred up to 1,220 m on migration. There is an emerging pattern of non-breeding season records in peninsular Thailand, Malaysia and Indonesia and breeding season records in continental South-East Asia, with passage migrants observed

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between these ranges. It has been observed catching freshwater shrimp, large beetles and small fish (Shepherd 2006), but feeds mainly by gleaning insects from overhanging vegetation (J. C. Eames *in litt*. 2007). It has also been sighted on former tin mining pools and ornamental lakes which may suggest a degree of tolerance to artificially modified sites, albeit it may alternatively represent the loss of suitable habitat (Bertram *et al*. 2020). The species is generally very shy and retiring but can appear extremely tame and confiding while incubating, rendering it susceptible to human predation (Neumann-Denzau 2008).

Systems: Terrestrial, Freshwater (=Inland waters)

Use and Trade

Hunting and collection of eggs and chicks have been recorded and although their contribution to population declines is probably minimal this requires clarification (Neumann-Denzau 2008); indeed the species is easily caught at the nest making it prey to opportunistic human hunters, with 56% of interviewed fisherman having collected the species (adult, chick or egg) (S. Chowdhury *in litt.* 2016).

Threats (see Appendix for additional information)

The main threat is the destruction and increased levels of disturbance to rivers in lowland riverine forest, driven by agricultural clearance and logging operations and increased traffic on waterways. One-off incidents may also have affected some populations such as oil spills (D. Simic *in litt.* 2014). Habitats have been further degraded by the removal of bankside vegetation and changes in hydrology resulting from dam construction, and siltation. In Myanmar, gold mining along rivers is the major threat (N. M. Shwe *in litt*. 2020).-

Moreover, population declines in areas such as the Sundarbans may be directly or indirectly related to climate change; with the possible effects of climate change including frequent tropical cyclones, a decline in preferred nesting habitat due to lack to suitable trees (effected by salt water intrusion due to sea level rise and reduced freshwater influx), and lower density of prey species due to environmental changes such as saltwater intrusion and cyclone. The Sundarbans are further threatened with a proposed 1,320 Megawatt power station to be built 14 km away (Fowlie 2013).

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Conservation Actions (see Appendix for additional information)

Conservation Actions Underway

It has been recorded in protected areas in most range states (Bertram *et al*. 2020), potentially the most important being the Sundarbans (Sundarbans East Wildlife Sanctuary; Khan 2005), Bangladesh (Kochikhali Tiger Reserve; Thompson and Johnson 2003), Cambodia (Kulen Promtep Wildlife Sanctuary; Rous and Mahood 2017), Vietnam (Kon Cha Rang Nature Reserve) and the Chindwin Basin in northern Myanmar. It is depicted on conservation awareness material in Cambodia and Laos. The Hukaung Valley Tiger Reserve in Myanmar covers an area that is considered to be of high national and global

significance for the species. The Sundarbans Finfoot Research Project has developed a breeding bird monitoring protocol in collaboration with the Bangladesh Forest Department (S. U. Chowdhury *in litt*. 2016).**Conservation Actions Proposed**

Conduct extensive surveys to clarify its distribution, population status, breeding range and seasonal movements. Investigate its ecological requirements and tolerance of habitat degradation and disturbance. In order to further understand the population decline, regular monitoring of breeding birds should be conduced, e.g. in the Sundarbans, Bangladesh (S. Chowdhury *in litt.* 2016). Afford protected-area status to key breeding sites, and strictly minimise habitat loss, hunting and disturbance within them. Increase protected-area representation for riverine habitats throughout the range. Expand awareness-raising programmes in order to reduce pressure from hunting and egg collecting. Limit access to known breeding sites and temporarily restrict the use of mono-filament gillnets during the breeding season (Chowdhury *et al*. 2020).

Credits

Assessor(s):	BirdLife International
Reviewer(s):	Fernando, E.
Contributor(s):	Allinson, T, Benstead, P., Bird, J., Chowdhury, S.U., Davidson, P., Duckworth, W., Eames, J.C., Eaton, J., Iqbal, M., Mahood, S., Mansur, E.F, Peet, N., Shwe, N., Simic, D., Taylor, J., Thompson, P., Tobias, J., Tordoff, J. & Westrip, J.R.S.
Facilitator(s) and Compiler(s):	Hermes, C. & Martin, R.
Authority/Authorities:	IUCN SSC Bird Red List Authority (BirdLife International)

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Citation

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External Resources

For Supplementary Material, and for Images and External Links to Additional Information, please see the Red List website.

Appendix

Habitats

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

Habitat	Season	Suitability	Major Importance?
1. Forest -> 1.7. Forest - Subtropical/Tropical Mangrove Vegetation Above High Tide Level	Resident	Suitable	No
5. Wetlands (inland) -> 5.1. Wetlands (inland) - Permanent Rivers/Streams/Creeks (includes waterfalls)	Resident	Suitable	No
5. Wetlands (inland) -> 5.5. Wetlands (inland) - Permanent Freshwater Lakes (over 8ha)	Resident	Suitable	No
5. Wetlands (inland) -> 5.7. Wetlands (inland) - Permanent Freshwater Marshes/Pools (under 8ha)	Resident	Suitable	No

Use and Trade

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

End Use	Local	National	International
1. Food - human	Yes	Yes	No

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	Minority (50%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.3. Agro-industry farming	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
2. Agriculture & aquaculture -> 2.4. Marine & freshwater aquaculture -> 2.4.2. Industrial aquaculture	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
3. Energy production & mining -> 3.2. Mining & quarrying	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		

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		2. Species Stresses -> 2.2. Species disturbance		
4. Transportation & service corridors -> 4.3. Shipping lanes	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	2. Species Stresses -> 2.2. Species disturbance		
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.1. Intentional use (species is the target)	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.3. Indirect species effects		
5. Biological resource use -> 5.3. Logging & wood harvesting -> 5.3.4. Unintentional effects: (large scale) [harvest]	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
6. Human intrusions & disturbance -> 6.3. Work & other activities	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	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	Minority (50%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
9. Pollution -> 9.2. Industrial & military effluents -> 9.2.3. Type Unknown/Unrecorded	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
9. Pollution -> 9.3. Agricultural & forestry effluents -> 9.3.4. Type Unknown/Unrecorded	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
11. Climate change & severe weather -> 11.4. Storms & flooding	Future	Majority (50-90%)	Rapid declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 2. Species Stresses -> 2.3. Indirect species effects		

Conservation Actions in Place

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

Conservation Action in Place
In-place research and monitoring
Action Recovery Plan: No
Systematic monitoring scheme: No
In-place land/water protection
Conservation sites identified: Yes, over entire range
Area based regional management plan: Unknown
Occurs in at least one protected area: Yes

Conservation Action in Place
Invasive species control or prevention: No
In-place species management
Harvest management plan: Yes
Successfully reintroduced or introduced benignly: No
Subject to ex-situ conservation: No
In-place education
Subject to recent education and awareness programmes: No
Included in international legislation: No
Subject to any international management / trade controls: No

Conservation Actions Needed

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

Conservation Action Needed
1. Land/water protection -> 1.1. Site/area protection
1. Land/water protection -> 1.2. Resource & habitat protection
2. Land/water management -> 2.1. Site/area management
4. Education & awareness -> 4.3. Awareness & communications
5. Law & policy -> 5.1. Legislation -> 5.1.3. Sub-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
3. Monitoring -> 3.1. Population trends

Additional Data Fields

Distribution
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): No
Estimated extent of occurrence (EOO) (km²): 1650000

Distribution
Continuing decline in extent of occurrence (EOO): Yes
Extreme fluctuations in extent of occurrence (EOO): No
Number of Locations: 7-12
Continuing decline in number of locations: Yes
Extreme fluctuations in the number of locations: No
Lower elevation limit (m): 0
Upper elevation limit (m): 1,220
Population
Number of mature individuals: 108-304
Continuing decline of mature individuals: Yes
Extreme fluctuations: No
Population severely fragmented: No
No. of subpopulations: 3
Continuing decline in subpopulations: Unknown
Extreme fluctuations in subpopulations: No
All individuals in one subpopulation: No
No. of individuals in largest subpopulation: 80-160
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 5.1
Movement patterns: Not a Migrant
Congregatory: Congregatory (and dispersive)

The IUCN Red List Partnership

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The IUCN Red List Partners are: ABQ BioPark; Arizona State University; BirdLife International; Botanic Gardens Conservation International; Conservation International; Missouri Botanical Garden; NatureServe; Re:wild; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; and Zoological Society of London.