

RAPTOR

TAXON ADVISORY GROUP



2022 AZA Raptor Taxon Advisory Group

Regional Collection Plan

Fifth Edition

Submitted:
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**ASSOCIATION
OF ZOOS &
AQUARIUMS &**

Acknowledgements

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Finally, thanks to all the raptor enthusiasts who have contributed to the pictures used to make this not only a functional RCP, but also an attractive one to look at these wonderful birds.



Photo credit Martin Pelanek, Shutterstock

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Photo Credit Andrea DeMuth, Brookgreen Gardens

RAPTOR TAXON ADVISORY GROUP MISSION STATEMENT

The mission of the Raptor Taxon Advisory Group is to coordinate the management and support of captive Accipitriformes, Cathartiformes, Falconiformes, and Strigiformes in AZA collections as well as to participate in and support relevant conservation efforts both *in-situ* and *ex-situ*.

RAPTOR TAG OPERATIONAL TRENDS

Raptors are typically long-lived species that have low reproductive rates. While some species clearly require careful population management, many populations in human-care with very low numbers have persisted for decades with minimal active management, reproduction, or recruitment. Demand and interest in the taxa remain high. A few programs in the TAG have direct links to *in-situ* conservation. The majority of programs in the TAG have been managed for multiple RCP cycles with robust data sets.

Raptor species are the most popular group of birds used in educational demonstrations and shows, and many species native to North America, primarily rehabilitated wild birds, make up a large proportion of AZA populations. While native birds may serve an important role as ambassadors for local wildlife, and/or may fit into zoo geographically themed North American habitats, it is important to recognize that these individual birds also compete with managed (SSP or TAG-monitored) species for critical space, and that the sustainability of many of our managed raptor populations depends directly on the space available to house these birds. We offer specific recommendations to address this challenge in the RCP. Tied to the main TAG challenge of space availability, there are also limited spaces for fully flighted birds due to exhibit design.

Another challenge is evolving considerations for the presentation of animals as ambassadors. As such, one goal listed below is to collaborate with other AZA and related organizations around guidelines for the use and presentation of these taxa. Finally, the remaining challenge for the TAG is husbandry knowledge for breeding success. The TAG goals listed below reflect an attempt to address this challenge as well.

GOALS OF THE RAPTOR TAG

- Develop and disseminate husbandry information for raptor species currently held in AZA facilities.
 - Update AZA Sustainability and Avian Scientific Advisory group (ASAG) fact sheets to better inform collection plan decisions and encourage SSP species. The updates will be completed by December 2022.
 - Finalize the Owl Care Manual by July 1, 2022.
- Develop public education programs focusing on conservation of species within this TAG, and promote the use of these materials by member institutions.
 - Utilize our education liaisons to assist programs and institutions in development of species-specific message points, and connect captive management to conservation efforts. These can be included in the Sustainability and ASAG fact sheets, as well as on the Ambassador Animal Scientific Advisory Group's (AASAG) Ambassador Animal Resource and Information Center (AARIC) website (AARIC.org). Develop a strategy on best way to do this by June of 2024.
 - Ensure that each SSP program species has an education advisor in place by the end of 2025.
- Collaborate with professional organizations focused on training and presentation of raptors in educational settings relating to the conservation efforts of AZA institutions (i.e. IAATE, through the Ambassador Animal Advisor and Education Liaisons). Focus additional efforts on species that have conservation programs that can be interpreted (by the species itself or other species) in public education programs.
 - Utilizing our relationship with the Ambassador Animal Scientific Advisory Group, we will ensure we are providing the highest level of care and welfare for ambassador raptors emphasizing the work and goals of the AASAG. With two members on our Steering Committee, we will utilize resources and have this process in place no later than June 2023.

- Within the next three years, integrate IAATE messaging (position statements, etc.) and other best practices guidelines established by other groups (EAZA, etc.) that are in alignment with this TAG's current and future goals.
- Identify the best possible roles for zoo populations of native raptors, which may include phasing out certain species/individuals in order to create additional management space for TAG-emphasized species. Focus on the use of native raptor species for education/docent focused programs and ensuring there are appropriate guidelines for their use.
 - To achieve this, we need to understand why native species are used for exhibits (Zoogeographical, raptor themed) and then what processes are used to acquire these species. A survey will be sent out for this information by mid-2023.
 - We understand that not all raptors who are taken into rehabilitation facilities are suitable for zoo exhibits or ambassador programs. Our goal is to work with the Ambassador Animal SAG to produce a process to help facilities who are looking for native raptors choose animals that are a best fit for their intended role. A draft will be produced by the end of December 2023.
- Monitor and address the needs of institutions who are starting or expanding their raptor collections. Utilizing institutional representatives, as liaisons for their institutions, for supporting and understanding their institutional needs.
 - Establish communication with facilities that do not hold raptors but may wish to do so, and create a process for onboarding these facilities to our TAG community. Have a plan and process in place by the first part of 2024.

TAXA COVERED BY THE RAPTOR TAG

This Regional Collection Plan for the Raptor Taxon Advisory Group includes all species in the orders: Accipitriformes, Cathartiformes, Falconiformes, and Strigiformes. *The Birds of the World* (Billerman et al., 2020) was used as the sole taxonomic reference. According to this reference, there are 567 species of birds that fall under the scope of the Raptor TAG. See [AZA Raptor TAG Taxon Listing](#)

Per McClure et al (2018), 52% of raptor populations are in decline with 18% classified by the IUCN into a category of conservation significance (Near Threatened, Vulnerable, Endangered, or Critically Endangered). Forest dependent species are most likely to be threatened by logging and agriculture. Old World vultures and raptors from south/southeastern Asia are most at risk.

Accipitriformes

Accipitridae	250 species
Pandionidae	1 species
Sagittariidae	1 species

Falconiformes

Falconidae	65 species
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Cathartiformes

Cathartidae	7 species
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Strigidae	225 species
Tytonidae	18 species



Photo credit Dr. Darryl Heard, St. Augustine Alligator Farm

CONSERVATION STATUS OF TAXA

The following were used as sources of information regarding the conservation status of taxa covered by this plan (listed in Table 2). See Definitions (page 123) for detailed descriptions of the IUCN, USFWS, and CITES categories.

- USFWS Endangered Species Act
- CITES
- IUCN 2021. The IUCN Red List of Threatened Species. Version 2021-2. [https://www.iucnredlist.org \(IUCN, 2021\)](https://www.iucnredlist.org)
- McClure, Christopher JW, et al. "State of the world's raptors: Distributions, threats, and conservation recommendations." *Biological Conservation* 227 (2018): 390-402.

The information referenced from these resources is found in the Species Profiles section of this RCP and reflects species currently held in AZA facilities. This TAG also recognizes that during the span of this RCP there may be unforeseen events or crises that may require an alteration to this plan. In the event that plan recommendations are significantly altered, the TAG will communicate with APM and IRs regarding changes.

Currently raptors are struggling with many of the common issues that all birds are dealing with; loss of habitat, power line collisions, decline in prey species and many more. As we address issues with Vulture Crisis on two continents as well as endangered species on two others, we are working with AZA facilities through the Vulture SAFE program. Eagles are losing their fight due to persecution and loss of habitat, which are elevated issues for species who may take two years to rear one chick. The TAG works with a variety of focus species and feels that these common challenges are worth working through. Populations will continue to go down, and within the next 10 years, the TAG will need to grow in response to these challenges. Education and community involvement will help us address this challenging time.

RAPTOR TAG OPERATIONAL STRUCTURE

STEERING COMMITTEE

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Photo credit Cathy Burkey, Dallas Zoo

RAPTOR TAG GUIDELINES

The Raptor TAG encourages all participating institutions and facilities to abide by the following:

- Cooperate fully with the various programs.
- Microchips are recommended for species overseen by the TAG to aid in long-term identification of individuals.
- Institutions are encouraged to focus on captive husbandry efforts of recommended species to improve and develop successful reproductive/breeding efforts.
- When individuals need to be restrained from flight, the TAG recommends reversible methods as a best practice for flight restriction. See the [Avian Scientific Advisory Group's flight restriction publication](#) for best practices.
 - The Raptor TAG acknowledges that pinioning has been a historic practice for flight restriction and therefore there are current birds in the AZA collection already pinioned, however the TAG strongly discourages this practice moving forward because of the welfare concerns associated with the natural history of raptors. Institutions looking for guidance on flight restriction for any species or individual, please reach out to the Program Leader or any TAG member.
- Shows and demonstrations should be evaluated and advised by experienced raptor professionals.
- Presentations should include an education component with an emphasis on conservation education and support.
- Many spaces in zoos are utilized to house non-releasable North American species. It is encouraged that institutions keep these North American species only when necessary for specific geographically zoned exhibits so as not to encroach on spaces that could be better utilized for the management of recommended species currently in need of space. [See Native Raptors Replacement Table](#)
 - The Raptor TAG recommends that facilities considering the acquisition of non-releasable raptors work with the TAG to consider appropriate individuals, as some debilitating injuries (including, but not limited to, full or partial wing amputations) should be avoided. Additional TAG consultation is recommended when considering placement of adult, parent-raised owls. It is strongly encouraged that facilities work with the TAG Ambassador Animal Advisor before placing non-releasable raptors in ambassador situations.
 - Additional evaluation of this subject and recommendations will be developed by the TAG within the next 2 years to assist institutions in acquiring appropriate rehabilitated specimens for their collections, with consideration for the long-term welfare of individuals.



Photo credit Joel Sartore/ National Geographic Photo Ark (Fort Wayne's Children Zoo)

SPECIES SELECTION CRITERIA

The TAG reviewed the Animal Population Management Committee species selection criteria and provided details on those suggested criteria as they relate to the AZA Raptor TAG program assessments. Several criteria categories were used as scoring goals, as they seemed to be appropriate for assessing the raptor populations within AZA. The TAG felt that by using these criteria we would work through and develop successful programs for species management.

SELECTION CRITERIA NOT EVALUATED

Those categories not chosen to evaluate and the TAG's reason for not including in the selection criteria are as follows:

Availability and feasibility of potential founders: The TAG believes that potential founders, if needed or available, would come from other regional associations or institutions outside of AZA rather than the wild. This holds true for a large majority of our program species, so this criterion was not included.

Exhibit value: All raptors have exhibit value, and the TAG prefers to assess what story is used to educate about a species rather than if they are simply used as an exhibit animal.

Taxonomic uniqueness: As with exhibit value, the TAG prefers to evaluate the story and connection to wild counterparts rather than simply use this as a criterion for selection.

Risk of losing the *Ex-situ* population: This is a reality for hundreds of species that are being exhibited across AZA, and the TAG and AZA cannot save all raptor populations with the limited resources we have. Thus, we are focusing on balancing resources we have (space available) and working to manage as many species as possible.

International programs: At this time, none of the Raptor TAG's managed species is an international program so this was not included. Only a single species is part of a reintroduction program currently.

North American government conservation program: Currently, the TAG only manages a single program that falls into this category. With the realization that AZA and the APM committee are still working on how to manage these programs in the future, there is no need to assess additional programs in this category.

SCORING CATEGORIES AND CRITERIA



Photo by Scott Tidmus, Disney's Animal Kingdom
institutional interest. TAG-monitored species were previously Candidate or SSP programs and have current studbooks managed by members of this TAG.

The TAG chose to score, evaluate, and use the selection criteria (below) for the thirty species of raptors who are housed in more than 13 institutions or were existing TAG SSP programs. We selected thirteen as our minimum number of holding institutions since we feel we can elevate any program at this number of institutions to the required 15-institution level by the end of this RCP cycle.

Eight currently managed species (Stellar's sea eagle, snowy owl, secretary bird, African white-backed vulture, lappet-faced vulture, Cape vulture, hooded vulture, and harpy eagle) are held at fewer than 13 facilities and will therefore be moved to TAG monitored programs; existing studbooks for these species will be maintained. Each member of the steering committee scored each species for which they felt they had significant knowledge (i.e., not all species were scored by all members, but all were scored by multiple members). The scores produced by the Species Selection Criteria review process were then tabulated, taking the mode of ratings as the final rating score for each criteria. Within each species, the scores for each criteria were then added to create the Total Score. The criteria were established to evaluate a return-on-investment strategy with the goal of selecting species that serve a significant role in AZA without being overburdened by needed investments. Any number zero or above was considered an acceptable return on investment and considered for TAG program (including TAG monitored). However only programs scoring two or above were considered for SSP status, representing a significant return on investment. Most programs scoring zero or one were import-reliant native species or did not have high

institutional interest. TAG-monitored species were previously Candidate or SSP programs and have current studbooks managed by members of this TAG.

The following section lists the categories used for scoring and the scoring definitions applied by the Steering Committee and TAG program managers. Final scores can be seen in Table 1. The outcome of program status was added to the scoring criteria chart as well as into the species profiles, TAG program review, and publication tables.

Availability & associated costs. The Raptor TAG covers many species, and for the most part, costs to transfer birds from one facility to the next is not very high as air shipment via crates works well for these species. The larger cost comes with acquiring species from outside of AZA, from our partners in Europe, Africa, and South America. With the decline in raptor numbers globally, acquisition costs increase while overall availability decreases.

- Ranking 1 – Readily available within AZA or appropriate rehabilitation facilities and can be transported by vehicle or as live cargo on commercial airlines.
- Ranking 0 – Acquisition requires import from international or non-AZA partners.
- Ranking -1 – Birds from *Ex-situ* populations are typically unavailable and conservation status makes wild-acquisition unlikely.

Availability within AZA population. The TAG requests a three to five years notice for acquisition of new ambassadors or exhibit birds from program species.

- Ranking 1 – SSPs can fill spaces with three years' notice.
- Ranking 0 – SSPs may require three to five years to fill spaces.

- Ranking -1 – SSPs will take longer than five years to fill spaces.

Conservation status. Raptor conservation is well-supported inside and outside of AZA. The TAG works to facilitate information sharing between conservation programs and AZA members, especially the IUCN Vulture Specialist Groups and AZA African Vulture SAFE.

- Ranking 1 – There are existing AZA conservation and reintroduction programs that zoos and aquariums can participate in or support.
- Ranking 0 – There is the potential to develop zoo-supported conservation programs.
- Ranking -1 – It is unlikely that there will be conservation programs that zoos can support or be involved in.

Demand within AZA. Raptors are popular with AZA zoos and aquariums as both exhibit and ambassador animals. It is the responsibility of the raptor TAG to work and maintain a collection of diverse raptors that facilities can utilize to tell the species' story as well as the story the zoo is working to tell and share with their Guests. The priority of the TAG and the SSP programs is to continue to meet institutional needs for new and expanding AZA facilities.

- Ranking 1 – Space survey data indicates that demand exceeds current holding space.
- Ranking 0 – Space survey data indicates that demand currently approximates holdings.
- Ranking -1 – The population exceeds available space and offspring or other surpluses are currently difficult to place within AZA.

Educational component. Educational value was attributed to species that can be interpreted to illustrate important concepts about raptors, those that can tell a story, whether it is about the species itself, or other similar species. These stories may include but are not limited to cultural uniqueness, population status, or conservation messaging.

- Ranking 1 – The species has a valuable story which covers its natural history and links directly to species conservation support.
- Ranking 0 – The species can be a representative species to tell the story of their wild, more endangered relatives, and share that conservation message.
- Ranking -1 – The species serve only to describe basic concepts about raptors in general.



Photo Credit Joseph V. Labolito/Temple University, Elmwood Zoo

Housing and husbandry considerations. Temperate species can be managed outdoors and may need little to no life support equipment. Tropical or warm weather species may require winter holding in Northern zoos. Enclosures and holding for cold climate species (such as snowy owl and Steller's sea eagle) are more expensive to build and maintain when housed in southern zoos, where indoor facilities and redundant life support equipment may be required.

- Ranking 1 – The species can be maintained in a variety of climate conditions without significant life support – allowing for appropriate housing per species requirements.
- Ranking 0 – Should provide appropriate exhibit size and shelter including indoor holding or catch cage areas.
- Ranking -1 – The species may require additional indoor holding facilities - such as air conditioned or heated holding areas.

Reproductive factors. All managed species of raptors in AZA institutions have successfully reproduced in human care. Chicks are often parent reared, but well-established artificial incubation and hand-rearing protocols are available for the majority of species. Some species have reproductive challenges, and the program managers are working to resolve these challenges. Artificial insemination has been successful in a limited number of species but is not generally utilized.

- Ranking 1 – The species have consistent reproduction and SSPs can normally meet reproductive goals recommended in the Breeding and Transfer Plan.
- Ranking 0 – Species have inconsistent reproduction and SSPs do not always meet reproductive goals recommended in the Breeding and Transfer Plan.
- Ranking -1 – Species have reproductive challenges and the SSPs rarely meet reproductive goals recommended in the Breeding and Transfer Plan.

Research potential. Research potential was attributed to those species for which captive needs were not well understood, or those for which captive research can assist to fill in gaps of wild natural history. Proposed research might include development of basic husbandry, propagation, nutrition, behavior, and/or medical knowledge.

- Ranking 1 - The Species is part of a current research project or supports research either in-situ or ex-situ.
- Ranking 0 – There is research needed but no current projects at this time.
- Ranking -1 – There are no pressing research needs or opportunities for research for this species.

Status of AZA held population.

- Ranking 1 – The species is currently a Green or Yellow SSP
- Ranking 0 – The species is currently a Red SSP or Candidate/Monitored Species with a studbook.
- Ranking -1 – The species is not currently monitored or has no studbook.

TABLE 1. SPECIES CRITERIA SCORE SHEET

	Acquisition cost	Availability	Conservation status	Demand within AZA	Educational component	Housing and husbandry considerations	Reproductive factors	Research potential	Status of AZA held population	Total Score
Green SSP										
King Vulture	1	1	0	0	0	0	0	0	1	3
Yellow SSP										
Andean Condor	0	1	1	1	1	0	0	1	1	6
California Condor	-1	0	1	1	1	0	1	1	1	5
Cinereous Vulture	0	0	1	1	1	1	0	0	1	5
Ruppell's Griffon Vulture	0	0	1	1	1	0	0	0	1	4
Burrowing Owl	1	1	1	0	1	0	1	1	1	7
Spectacled Owl	1	1	0	0	1	0	1	0	1	5
Eurasian Eagle-owl	1	1	-1	0	1	1	0	-1	0	2
Red SSP										
African Pygmy Falcon	1	1	0	0	0	-1	1	0	0	2
Candidate/Monitored Programs										
Steller's Sea-eagle	0	0	1	0	0	0	0	-1	1	1
Snowy Owl	1	1	-1	0	0	0	0	0	0	1
African White-backed Vulture	-1	0	1	1	1	0	-1	-1	0	0
Cape Griffon Vulture	-1	0	1	1	1	0	-1	0	0	1
Lappet-faced Vulture	-1	0	1	1	1	0	0	-1	0	1
Hooded Vulture	-1	0	1	1	1	0	0	-1	0	1
Harpy Eagle	0	-1	1	1	1	0	0	-1	0	1
Secretarybird	-1	0	0	0	1	0	0	0	0	0
Verreaux's Eagle Owl	0	1	-1	0	0	1	0	-1	0	0
	Acquisition cost	Availability	Conservation status	Demand within AZA	Educational component	Housing and husbandry considerations	Reproductive factors	Research potential	Viability of AZA held population	Summary Score
Other Species in 13 or more institutions										
Turkey vulture	1	1	-1	0	0	1	-1	-1	-1	-1
Black vulture	1	1	-1	0	0	1	-1	-1	-1	-1
Red-tailed Hawk	1	1	-1	0	-1	1	-1	-1	-1	-2
Swainson's Hawk	1	1	-1	0	-1	1	-1	-1	-1	-2
Harris' Hawk	1	1	-1	0	-1	0	-1	-1	-1	-3
Bald Eagle	0	1	1	0	1	1	-1	-1	-1	1
Golden Eagle	0	1	1	0	1	1	-1	-1	-1	1
Peregrine Falcon	0	1	1	0	1	1	-1	-1	-1	1
American Kestrel	1	1	1	0	0	0	-1	-1	-1	0
Barn Owl	1	1	1	0	-1	1	-1	-1	-1	0
Great Horned Owl	1	1	-1	0	-1	1	-1	-1	-1	-2
Eastern Screech-owl	1	1	-1	0	-1	1	-1	-1	-1	-2
Barred Owl	1	1	-1	0	-1	1	-1	-1	-1	-2

POPULATION CHANGE UPDATES

There have been seven species added to AZA collections since the 2015 RCP was completed. None of these will be SSP's or TAG Monitored programs at this time.

Saker Falcon (*Falco cherrug*)

White-tailed Hawk (*Geranoaetus albicaudatus*)

Mottled Owl (*Strix virgata*)

Augur Buzzard (*Buteo augur*)

Harlan's Hawk (*Buteo jamaicensis harlani*)

Swallow-tailed Kite (*Elanoides forficatus*)

White-tailed Kite (*Elanus leucurus*)



Photo credit Karen Willes

MANAGEMENT CATEGORIES

Once it was determined that a species would be included in the RCP, a decision was made regarding what type of management program would be appropriate. The Management Assessment Criteria were used to evaluate each of the programs to ensure compliance with the APM committee guidelines. Each species was assigned to one of the following management categories based on this review:

Green SSP Programs

- Green SSP Programs have a population size equal to or greater than 50 individuals.
- This population is able to retain > 90.0% GD for 100+ years or 10+ generations.
- The population is presently sustainable demographically with a sufficiently large population size and a positive growth rate to reach 100 years.

Yellow SSP Program

- Yellow SSP Programs have a population size (total N at the time of population planning) equal to or greater than 50 individuals.
- The population is not able to retain at least 90.0% GD over 100+ years or 10+ generations.
- The population may have never been formally planned, or was planned more than five years ago, so the population sustainability score cannot be properly assessed.

Red SSP Programs

- Red SSP Programs have a published AZA Regional Studbook.
- The population has at least 3 defined goals.
- The population has a population size between 20 and 49 individuals.
- The population is managed among at least three AZA member facilities.

Candidate/ TAG Monitored Programs

- The TAG may include additional species that, although not recommended to be an SSP, are frequently cared for in AZA member institutions. The TAG may choose to track or monitor these populations informally and may recommend them for formal AZA Animal Programs in the future should they meet minimum criteria.
- Candidate/Tag Monitored Programs are Animal Programs that the TAG hopes to grow to an SSP Program, and they are not considered AZA cooperatively managed Animal Programs at this time.
- Candidate/TAG Monitored Programs are those populations that have 19 or fewer individual animals and/or are held only at one or two AZA member facilities.

Phase-out and phase-in species

- “Phase-out species” refer to species currently held within AZA the TAG recommends the specific action of removing or reducing the population to reallocate resources toward another formally managed Animal Program. This may be indicated as an active process (sending animals to other zoological regions) or over time (through attrition).
- “Phase-in species” refer to species currently unrepresented within the AZA where the TAG recommends the specific action of bringing into AZA member facilities. If phase-in species are listed, the TAG should develop specific goals for this population to be added.

Not Recommended

- If a species is not currently in AZA institutions, then the TAG recommends it not be brought into a captive management program at this time.

TARGET POPULATIONS

Target sizes (Table 2) were carried over from the previous RCP target sizes, and are titled 5-year Target Population to remain with nomenclature convention, even though the next RCP cycle will be less than 5 years in the future. Program species target populations were set with assistance from the PMC or Adjuncts and the program leader based on the previous RCP or most recent breeding and transfer plans. Target sizes were updated in some cases in which the target size was incongruent with current space survey results or current population size and growth, or the program leader was advised to request a change during the Breeding and Transfer Plan process.



Photo credit Keith Lovett, Buttonwood Zoo

TABLE 2. ANIMAL PROGRAMS SUMMARY

This table reflects the current population (from the most recent breeding and transfer plans), species target population (based on breeding and immigration of new specimens into collections) and the population trend (based on changes from the last RCP to this RCP). We are utilizing the current and potential growth in order to help assess the target populations for the TAG over the next 5 years. Abbreviations listed in the Conservation Status column of this table are defined in the Definitions section on page 122-123. These current population and facility numbers may differ from those provided in the space survey, which were pulled from the number of facilities responding, and current ZIMS holding reports.

Program Summary	Last BTP or Studbook Submitted	Current Population	Number of Participating Institutions	Gene Diversity % over 100 years	5 Year Target Population Size	Space Needed	Recent Population Trend	Program Manager	Conservation Status IUCN, CITES, USFWS
Green SSP									
King Vulture	2/1/2020	83	37	91.70%	100	17	decreasing	Shelly Collinsworth	LC, III, NL
Studbook	10/20/2019							Shelly Collinsworth	
Yellow SSP									
Andean Condor	11/24/2021	67	28	89%	85	18	decreasing	John Azua	NT, I, NL
Studbook	11/20/2019							Ron Webb	
Burrowing Owl	2/1/2021	158	50	75.70%	170	12	decreasing	Yvonne Strode	LC, II, NL
Studbook	2/1/2019							Yvonne Strodes	
California Condor	10/18/2021	106	6	93.80%	50	N/A Release Program	increasing	Rachel Ritchason	CR, I, EN
Studbook	9/6/2019							Rachel Ritchason	
Cinereous Vulture	11/1/2019	58	20	83.10%	70	12	decreasing	Mary Jo Willis	NT, II, NL
Studbook	10/11/2019							Mary Jo Willis	
Eurasian Eagle Owl	2/1/2020	80	46	unk	100	20	decreasing	Ashley Graham	LC, II, NL
Studbook	10/1/2019							Ashley Graham	
Ruppell's Griffon Vulture	12/1/2020	54	14	78.30%	70	16	decreasing	Spring Liu	CR, II, NL
Studbook	7/1/2020							Spring Liu	
Spectacled Owl	9/20/2020	65	27	75%	85	20	decreasing	Steve Sarro	VU, II, NL
Studbook	1/1/2020							Steve Sarro	
Red SSP									
Pygmy Falcon	9/2/2021	40	14	56%	70	30	stable	Nicole LaGreco	LC, II, NL
Studbook	2/20/2021							Nicole LeGreco	
Monitored Programs									
Snowy Owl	12/1/2020	48	10	57.40%	75	27	decreasing	Cody Hickman	VU, II, NL
African White-backed vulture	7/22/2020	8	3		25	17	decreasing	Debbie Milligan	CR, II, NL
Cape Griffon	5/13/2021	35	10		50	15	decreasing	Chandra David	EN, II, NL
Hooded Vulture	5/1/2020	45	10		50	5	decreasing	Megan Victoriano	CR, II, NL
Harpy Eagle	3/8/2019	6	15		25	19	decreasing	Beau Parks	NT, II, NL
Lappet-faced Vulture	8/1/2020	30	11		50	20	decreasing	Debbie Milligan	EN, II, NL
Secretary Bird	4/24/2020	25	10		50	25	decreasing	Vacant	VU, II, NL
Stellar's Sea Eagle	3/1/2019	30	14		50	20	decreasing	Beau Parks	VU, II, NL
Verreaux's Eagle Owl	2/12/2022	23	12		50	27	stable	Justin Eckelberry	LC, II, NL

TABLE 3. MANAGEMENT ASSESSMENT CRITERIA MATRIX

This table was developed by APM to assist TAGs in determining the appropriate level of population management for their program species. This table was used in review of the species currently found within AZA institutions. This review was done by members of the steering committee and in special cases the experience and knowledge of the specific species was used to evaluate their level of management. As stated previously, we are using Monitored Programs in place of Candidate species. If a program does not meet the current definitions of the Candidate Species and there is a pre-existing studbook, we are holding it as a Monitored Program for this RCP cycle. We did not alter the program titles generated by AZA in this table.

	Green SSP Program	Yellow SSP Program	Red SSP Program	Candidate Program
AZA Policies				
AZA Acquisition, Transfer and Transition Policy	Required	Required	Required	Required
AZA Code of Professional Ethics	Required	Required	Required	Required
AZA Full Participation in SSP Program Policy	Required	Voluntary	Voluntary	NA
AZA Animal Management Reconciliation Policy	Required	Not Required	Not Required	NA
APMC Approval of Sustainability Partners	Required	Not Required	Not Required	Not Required
Sustainability Criteria				
Minimum population size (N)*	50	50	20	NA
Minimum number of participating AZA member institutions	15	15	15	NA
Projected gene diversity (%GD) at 100 years or 10 generations	90.0% or above	Less than 90.0%	Less than 90.0%	NA
Cooperative Management				
TAG recommended Animal Program in RCP	Required	Required	Required	Required
AZA Regional Studbook	Required	Required	Required	Not Required
Formal population planning by PMC, PMC Adjunct or SPMAG Advisor	Required	Required	Required	Not Required
Management Group	If Needed	If Needed	If Needed	If Needed
Accountability				
Develop three Program goals	Required	Required	Required	Required
AZA and APMC oversight	Yes	Yes	Yes	No
Breeding and Transfer Plan published at least every 3 years	Required	Required	Required	Not Required
AZA Regional Studbook is published at least every 3 years	Required	Required	Required	Not Required
AZA Regional Studbook Keeper must take Population Management 1	Required	Required	Required	Recommended
Program Leader must take Population Management 2	Recommended	Recommended	Recommended	Recommended



Photo Credit Chelsea Stover, Dallas Zoo

TABLE 4. MANAGED PROGRAM UPDATES

This table reflects any changes in program status since the last RCP cycle and includes a list of current SSP coordinators and Studbook keepers.

Common Name	Scientific Name	Year of Studbook/SSP Initiation	2015 RCP Recommendation	Current Designation	SSP Coordinator & Studbook keeper
King Vulture	<i>Sarcoramphus papa</i>	2/10/1988	Green SSP	Green SSP	SSP Coordinator/Studbook Keeper Shelly Collinsworth Fort Worth Zoo scollinsworth@fortworthzoo.org p: 817-759-7212
Andean Condor	<i>Vultur gryphus</i>	10/1/2003	Yellow SSP	Yellow SSP	<u>SSP Coordinator</u> John Azua Denver Zoo jazua@denverzoo.org p: 720-337-1514 <u>Studbook Keeper</u> Ron Webb San Diego Zoo Safari Park rwebb@sdzwa.org p: 760-747-8702
Burrowing Owl	<i>Athena cunicularia</i> + <i>A.c.floridana</i> + <i>A.c.hypugaea</i>	4/8/1996	Yellow SSP	Yellow SSP	SSP Coordinator/Studbook Keeper Yvonne Strodes Peoria Zoo ystrode@peoriazoo.org p: 309-686-3365 ext. 302

California Condor	<i>Gymnogyps californianus</i>	10/5/1988	Yellow SSP	Yellow SSP	<u>SSP Coordinator/Studbook keeper</u> Rachel Ritchason Santa Barbara Zoo rritchason@sbzoo.org p: 805-962-5339 ext. 139
Cinereous Vulture	<i>Aegypius monachus</i>	8/19/1993	Yellow SSP	Yellow SSP	<u>SSP Coordinator</u> Mary Jo Willis Denver Zoo mjwillis@denverz00.org p: 720-496-9010 Studbook Vacant at this time
Eurasian Eagle Owl	<i>Bubo bubo</i> + <i>B.b.bubo</i> only	3/15/2006	Red SSP	Yellow SSP	<u>SSP Coordinator/Studbook Keeper</u> Ashley Graham Smithsonian National Zoological Park grahamas@si.edu p: 202-633-3210
Pygmy Falcon	<i>Polihierax semitorquatus</i>	7/8/1996	Red SSP	Red SSP	<u>SSP Coordinator/Studbook Keeper</u> Nicole LaGreco San Diego Zoo Safari Park nlagreco@sdzwa.org p: 619-744-3355
Ruppell's Griffon Vulture	<i>Gyps rueppelli</i> + <i>G.r.rueppelli</i>	3/15/2006	Yellow SSP	Yellow SSP	<u>SSP Coordinator/Studbook Keeper</u> Sprina Liu Dallas Zoo spring.liu@dallaszoo.com p: 469-5547240
Spectacled Owl	<i>Pulsatrix persicillata</i> + <i>P.p. perspicillata</i>	2/12/1992	Yellow SSP	Yellow SSP	<u>SSP Coordinator/Studbook Keeper</u> Steve Sarro Smithsonian National Zoological Park sarros@si.edu p: 202-633-3242
Snowy Owl	<i>Nyctea scandiaca</i>	3/15/2006	Red SSP	Monitored Program	<u>Studbook Keeper</u> Cody Hickman Chicago Zoological Society - Brookfield Zoo cody.hickman@czs.org p; 709-688-8000

Cape Griffon Vulture	<i>Gyps capensis</i>	3/15/2006	Red SSP	Monitored Program	<u>Studbook Keeper</u> Chandra David Los Angeles Zoo chandra.david@lacity.org p: 323-644-4200
Harpy Eagle	<i>Harpia harpyja</i>	4/4/2012	Red SSP	Monitored Species	<u>Studbook Keeper</u> Beau Parks San Diego Zoo bparks@sdzwa.org p: 619-231-1515 ext. 4424
Hooded Vulture	<i>Necrosyrtes monachus</i>	5/15/2009	Red SSP	Monitored Species	<u>Studbook Keeper</u> Megan Victorino St. Augustine Alligator Farm mvictorino@alligatorfarm.com p: 904-824-337 ext. 116
Lappet-faced Vulture	<i>Torgos tracheliotus</i>	3/15/2006	Red SSP	Monitored Species	<u>Studbook Keeper</u> Debbie Milligan Dallas Zoo debbie.milligan@dallaszoo.org p: 214-670-6826
Secretary Bird	<i>Sagottarius serpentarius</i>	3/15/2006	Red SSP	Monitored Species	<u>Studbook Keeper</u> Vacant
Steller's Sea Eagle	<i>Haliaeetus pelagicus + H.p. pelagicus</i>	4/1/2009	Red SSP	Monitored Species	<u>Studbook Keeper</u> Beau Parks San Diego Zoo bparks@sdzwa.org 619-231-1515 ext. 4424
Verreaux's Eagle Owl	<i>Bubo lacteus</i>	2/15/2006	Candidate Species	Monitored Species	<u>Studbook Keeper</u> Justin Eckleberry Zoo Atlanta jeckelberry@zoatlanta.org p: 404-624-5879
White-backed Vulture	<i>Gyps africanus</i>	3/15/2006	Candidate Species	Monitored Species	<u>Studbook Keeper</u> Debbie Milligan Dallas Zoo debbie.milligan@dallaszoo.org p: 214-670-6826

2022 SPACE SURVEY ANALYSIS

From December 2021-January 2022, the Raptor TAG Steering Committee conducted a space survey. This survey went out to all 144 Raptor TAG Institutional Representatives, they were given three weeks to complete an excel survey of current raptor species held at their respective organizations. Non-responding facilities were contacted by steering committee members who encouraged participation. Those that did and did not participate are listed below in the Accountability Tables. In total, 126 facilities (of 144 facilities, 88%) completed the survey, including 4 that reported back as having no raptors in their population.

ACCOUNTABILITY TABLES

Table 5. Facilities that responded to the survey:

Abilene Zoological Gardens	North Carolina Aquarium at Fort Fisher
Akron Zoological Park	North Carolina Aquarium at Pine Knoll Shores
Albuquerque Biological Park	North Carolina Aquarium on Roanoke Island
Alexandria Zoological Park	North Carolina Zoo
Aquarium of the Pacific	Northeastern Wisconsin (NEW) Zoo & Adventure Park
Arizona-Sonora Desert Museum	Northwest Trek Wildlife Park
Assiniboine Park Zoo	Oakland Zoo
Audubon Zoo	Ocean Park Corporation
Bergen County Zoological Park	Oglebay's Good Zoo
Binder Park Zoo	Oklahoma City Zoo and Botanical Garden
Blank Park Zoo	Oregon Zoo
Bramble Park Zoo	Palm Beach Zoo
Brandywine Zoo	Palm Beach Zoo
Bronx Zoo	Peoria Zoo
Brookgreen Gardens	Philadelphia Zoo
Buffalo Zoo	Phoenix Zoo
Busch Gardens Tampa Bay	Point Defiance Zoo & Aquarium
Calgary Zoo	Potawatomi Zoo
Central Florida Zoo & Botanical Gardens	Potter Park Zoological Gardens
Central Park Zoo	Pueblo Zoo
Cheyenne Mountain Zoo	Queens Zoo
Chicago Zoological Society - Brookfield Zoo	Rainforest & Aquarium at Moody Gardens Inc.
Cincinnati Zoo & Botanical Garden	Reid Park Zoo
Cleveland Metroparks Zoo	Riverbanks Zoo & Garden
Como Park Zoo and Conservatory	Roosevelt Park Zoo
Connecticut's Beardsley Zoo	Sacramento Zoo
Cosley Zoo	Saint Louis Zoo
CuriOdyssey	San Antonio Zoological Society
Dakota Zoo	San Diego Zoo
Dallas Zoo	San Diego Zoo Safari Park
Denver Zoo	San Francisco Zoological Gardens
Detroit Zoo	Santa Barbara Zoological Gardens
Dickerson Park Zoo	Santa Fe College Teaching Zoo

Discovery Cove	Scovill Zoo
Disney's Animal Kingdom	SeaWorld San Antonio
Elmwood Park Zoo	SeaWorld San Diego
Fort Wayne Children's Zoo	Sedgwick County Zoo
Fort Worth Zoo	Seneca Park Zoo
Gladys Porter Zoo	Smithsonian National Zoological Park
Greenville Zoo	St. Augustine Alligator Farm
Grizzly & Wolf Discovery Center	Staten Island Zoo
Happy Hollow Zoo	Sunset Zoological Park
Honolulu Zoo	Texas State Aquarium
Hutchinson Zoo	The David Traylor Zoo of Emporia
Indianapolis Zoological Society Inc.	The Maryland Zoo in Baltimore
Jacksonville Zoo and Gardens	Toledo Zoo & Aquarium
John Ball Zoo	Topeka Zoo
Kansas City Zoo	Toronto Zoo
Lake Superior Zoo	Tracy Aviary
Lincoln Park Zoo	Trevor Zoo
Lion Country Safari	Tulsa Zoo
Little Rock Zoo	Turtle Back Zoo
Living Desert Zoo & Gardens State Park	Utah's Hogle Zoo
Louisville Zoological Garden	Utica Zoo
Loveland Living Planet Aquarium	Virginia Zoological Park
Memphis Zoo	Woodland Park Zoo
Mesker Park Zoo & Botanic Garden	Zoo Atlanta
Miller Park Zoo	Zoo Boise
Milwaukee County Zoological Gardens	Zoo de Granby
Museum of Science	Zoo Knoxville
Naples Zoo	Zoo Miami
Nashville Zoo Inc.	Zoo New England
National Aviary	ZOOAMERICA North American Wildlife Park
Natural Encounters Inc.	ZooMontana
	ZooTampa at Lowry Park

Table 6. Facilities that did not respond to the survey:

SEA LIFE Arizona Aquarium	El Paso Zoo
Cameron Park Zoo	Omaha's Henry Doorly Zoo & Aquarium
The Florida Aquarium	Minnesota Zoological Garden
Bramble Park Zoo	Chattanooga Zoo at Warner Park
North Carolina Aquarium at Pine Knoll Shores	Roger Williams Park Zoo
Rolling Hills Zoo	Maritime Aquarium at Norwalk
Fresno Chaffee Zoo	Prospect Park Zoo
Buttonwood Park Zoo	Lincoln Children's Zoo
Freeport-McMoRan Audubon Species Survival Center	

SPACE SURVEY RESULTS

Space survey results are presented in Table 7 below. Based on the space evaluation responses (88% of holders), there are 1960 spaces dedicated to raptors currently (both exhibit and ambassador birds). Of these spaces, 542 or approximately 28%, are spaces dedicated to ambassador birds. AZA responding holders report that they will add 356 spaces for all raptors from now (2022) through the next five years (2027). The 1960 reported current spaces reported by responding facilities falls short of the 2503 animals reported by ZIMS holding institutions currently (April 2022), and represents a gap in the survey data.

Of the 72 species held by current AZA responding facilities, 48 species have shown a negative change in projected space since the previous RCP. This decline should be interpreted with caution, as the questions and methods of surveying AZA holders were not duplicated in the current and previous RCPs; however, the TAG feels that its current evaluation of space is more representative of the realistic space and holdings that AZA organizations are currently dedicating to raptor species. In the 2015 RCP, the 5-year projected space totaled 3109 spaces, but these numbers were not realized with responding institutions reporting 1960 spaces currently and current holdings in ZIMS totaling 2503 animals. However, the 1960 current reported spaces represent an increase of 174 spaces from the 1786 actual spaces reported in the 2015.

In this current 2022 space evaluation, the TAG predicts there will be space for 2316 total raptors five years from now (2027). This represents a decline of 793 projected spaces, or a 25% decrease, from the 2015 RCP projections. However, based on the current assessment, the holders report current total space will increase by 356 spaces, or 18% of the current holdings, in the next five years. This can be considered optimistic for the TAG if the space is realized.

Based on the total space evaluation, there are spaces for 2316 raptors in five years, which suggests that 1632 spaces or about 70% of all raptor TAG space will be allocated to non-SSP raptors, highlighting the need for the TAG to focus on suggesting suitable replacements for native raptors by species in managed programs. Currently, 711 spaces are dedicated to the programs that the TAG is proposing to manage as SSPs in this RCP (see Table 2). Based on the space evaluation, these species will have 684 spaces in five years. If just 27 spaces (1.7%) are converted from native raptors to managed species in five years, SSP program populations can remain stable. The TAG does not anticipate recovering the majority of the 1632 spaces for managed programs in the next five years, as these are long-lived species, many of which are currently used in ambassador programs or North American native species exhibits, or are birds that resulted from rehabilitation scenarios. While the TAG has developed initial recommendations related to birds that fulfill these roles or are obtained from these sources, the TAG also has developed goals for some of these spaces to convert to space for managed programs, and will work with AZA facilities to do so as the opportunity becomes available.

In addition to the spaces for SSP species, there are an additional 242 spaces projected in 5-Years for TAG-Monitored species. This suggests that there will be 926 spaces in five years for TAG-priority species, or approximately 40% of all raptor space.

The TAG recognizes that AZA members are committed to housing many more raptor species than will be managed or monitored in order to meet their collection goals. However, based on this evaluation, the space for the managed programs should remain approximately the same in the next five years, and the TAG will actively work with AZA organizations to determine if some non-recommended species could be converted to support its managed programs and develop strategies to grow these programs.

TABLE 7. SPACE SURVEY RESULTS

Table 7 includes the number of current exhibit animals, current ambassador animals, planned additional space, total 5-year projected space, and responding facility number for raptor species by institutions that responded to the 2022 space survey. Because only 88% of holding institutions responded, current (April 2022) ZIMS AZA holdings and facility numbers are also reported to represent more fully the current number of animals held at AZA facilities. Current numbers are compared to the population and projected space numbers from the previous RCP. Finally, the change in current projected space compared to the projected space from the last RCP is included in the last column.

Taxa	Region	Species	Scientific Name	Program Level	Current Exhibit Animals	Current Ambassador Animals	Respondents Planned Additional Spaces	Total 5-year Projected Space	Current AZA Responding Facility Count	2022 Current ZIMS Facility Count	2022 Current ZIMS Holdings	Population from previous RCP	Projected space from last RCP	Change in projected space since last RCP
Barn Owl	Worldwide	Barn Owl	<i>Tyto alba</i>	Non-Managed	59	26	16	101	42	59	98	102	150	-49
Caracara	New World	Crested Caracara	<i>Caracara cheriway</i>	Non-Managed	4	3	0	7	1	11	21	16	25	-18
		Southern Caracara	<i>Caracara plancus</i>	Non-Managed	0	0	0	0	0	6	7	-7	7	-7
Eagle	New World	Bald Eagle	<i>Haliaeetus leucocephalus</i>	Non-Managed	134	21	23	178	70	104	219	172	267	-89
		Golden Eagle	<i>Aquila chrysaetos</i>	Non-Managed	24	7	4	35	21	31	73	22	65	-30
		Harpy Eagle	<i>Harpia harpyja</i>	TAG Monitored	6	3	6	15	6	7	14	10	30	-15
		Ornate Hawk-eagle	<i>Spizaetus ornatus</i>	Non-Managed	2	0	0	2	1	2	6	1	0	2
	Old World	Crowned Eagle	<i>Stephanoaetus coronatus</i>	Non-Managed	4	0	0	4	2	2	4	6	10	-6
		African Fish-eagle	<i>Haliaeetus vocifer</i>	Non-Managed	5	5	0	10	4	4	7	8	20	-10
		Bateleur	<i>Terathopius ecaudatus</i>	Non-Managed	5	4	1	10	8	7	9	12	30	-20
		Martial Eagle	<i>Polemaetus bellicosus</i>	Non-Managed	1	1	0	2	1	3	3	0	0	2
		Steller's Sea-eagle	<i>Haliaeetus pelagicus</i>	TAG Monitored	19	0	10	29	12	15	29	21	20	9

		Tawny Eagle	<i>Aquila rapax</i>	Non-Managed	0	1	0	1	1	1	2	0	0	1
		Verreaux's Eagle	<i>Aquila verreauxii</i>	Non-Managed	0	0	0	0	0	0	0	0	0	0
		White-tailed Eagle	<i>Haliaeetus albicilla</i>	Non-Managed	0	0	0	0	0	0	0	2	0	0
Falcon	New World	American Kestrel	<i>Falco sparverius</i>	Non-Managed	26	26	15	67	28	41	58	34	110	-43
		Aplomado Falcon	<i>Falco femoralis</i>	Non-Managed	1	0	0	1	1	6	7	2	0	1
		Gyrfalcon	<i>Falco rusticolus</i>	Non-Managed	0	0	0	0	0	0	0	3	0	0
		Merlin	<i>Falco columbarius</i>	Non-Managed	1	1	0	2	1	4	4	3	8	-6
		Peregrine Falcon	<i>Falco peregrinus</i>	Non-Managed	8	5	2	15	7	16	23	22	40	-25
		Prairie Falcon	<i>Falco mexicanus</i>	Non-Managed	2	2	0	4	2	2	2	2	10	-6
	Old World	Pygmy Falcon	<i>Polihierax semitorquatus</i>	Yellow SSP	33	7	4	44	14	15	33	38	70	-26
		Eurasian Kestrel	<i>Falco tinnunculus</i>	Non-Managed	1	1	0	2	1	2	3	0	0	2
		Laggar Falcon	<i>Falco jugger</i>	Non-Managed	0	0	0	0	0	0	0	2	0	0
		Lanner Falcon	<i>Falco biarmicus</i>	Non-Managed	8	6	0	14	4	5	9	5	8	6
		Saker Falcon	<i>Falco cherrug</i>	Non-Managed	0	0	0	0	0	1	1	0	0	0
Hawk	New World	Broad-winged Hawk	<i>Buteo platypterus</i>	Non-Managed	3	1	1	5	3	3	3	5	10	-5
		Cooper's Hawk	<i>Accipiter cooperii</i>	Non-Managed	3	1	1	5	3	6	10	1	10	-5
		Ferruginous Hawk	<i>Buteo regalis</i>	Non-Managed	4	3	0	7	4	4	4	5	12	-5
		Gray Hawk	<i>Buteo plagiatus</i>	Non-Managed	1	1	0	2	1	2	2	1	0	2
		Harris's Hawk	<i>Parabuteo unicinctus</i>	Non-Managed	43	79	9	131	43	59	132	76	115	16
		Hawaiian Hawk	<i>Buteo solitarius</i>	Non-Managed	1	1	0	2	1	2	2	2	15	-13
		Northern Goshawk	<i>Accipiter gentilis</i>	Non-Managed	0	0	0	0	0	0	0	0	0	0
		Northern Harrier	<i>Circus hudsonius</i>	Non-Managed	0	0	0	0	0	1	1	1	5	-5
		Red-shouldered Hawk	<i>Buteo lineatus</i>	Non-Managed	11	4	4	19	9	10	11	9	18	1
		Red-tailed Hawk	<i>Buteo jamaicensis</i>	Non-Managed	74	44	15	133	62	93	143	105	187	-54
		Rough-legged Hawk	<i>Buteo lagopus</i>	Non-Managed	1	0	1	2	1	3	4	6	15	-13
		Sharp-shinned Hawk	<i>Accipiter striatus</i>	Non-Managed	0	0	0	0	0	3	5	0	0	0
		Swainson's Hawk	<i>Buteo swainsoni</i>	Non-Managed	10	7	2	19	10	17	32	15	30	-11
	Old World	Augur Buzzard	<i>Buteo augur</i>	Non-Managed	2	2	0	4	2	0	0	0	0	4

	Unknown	Undetermined falcon/hawk sp.	n/a	Non-Managed	0	1	0	1	1	0	0	0	0	1
Kite	New World	Mississippi Kite	<i>Ictinia mississippiensis</i>	Non-Managed	2	0	0	2	1	2	3	5	10	-8
	Old World	Black Kite	<i>Milvus migrans</i>	Non-Managed	7	9	0	16	2	2	9	0	0	16
Osprey	Worldwide	Osprey	<i>Pandion haliaetus</i>	Non-Managed	0	0	0	0	0	3	5	2	25	-25
Secretary Bird	Old World	Secretarybird	<i>Sagittarius serpentarius</i>	TAG Monitored	19	1	5	25	8	9	24	24	35	-10
Typical Owl	New World	Barred Owl	<i>Strix varia</i>	Non-Managed	48	20	11	79	33	51	73	102	150	-71
		Burrowing Owl	<i>Athene cunicularia</i>	Yellow SSP	115	16	9	140	32	50	175	69	170	-30
		Ferruginous Pygmy-owl	<i>Glaucidium brasilianum</i>	Non-Managed	12	0	0	12	0	1	30	0	0	12
		Eastern Screech-owl	<i>Megascops asio</i>	Non-Managed	78	52	29	159	52	70	146	121	150	9
		Elf Owl	<i>Micrathene whitneyi</i>	Non-Managed	0	0	2	2	1	0	0	1	5	-3
		Great Gray Owl	<i>Strix nebulosa</i>	Non-Managed	6	0	1	7	3	2	6	10	10	-3
		Great Horned Owl	<i>Bubo virginianus</i>	Non-Managed	63	34	10	107	54	86	138	80	0	107
		Long-eared Owl	<i>Asio otus</i>	Non-Managed	3	0	-1	2	1	7	13	4	10	-8
		Mottled Owl	<i>Ciccaba virgata</i>	Non-Managed	0	0	0	0	0	1	1	0	0	0
		Northern Saw-whet Owl	<i>Aegolius acadicus</i>	Non-Managed	1	1	6	8	6	1	1	5	10	-2
		Short-eared Owl	<i>Asio flammeus</i>	Non-Managed	1	0	0	1	1	3	3	2	5	-4
		Snowy Owl	<i>Bubo scandiacus</i>	Red SSP	35	1	25	61	23	25	45	36	150	-89
	Old World	Spectacled Owl	<i>Pulsatrix perspicillata</i>	Yellow SSP	31	14	4	49	19	23	55	41	85	-36
		Spotted Owl	<i>Strix occidentalis</i>	Non-Managed	0	0	0	0	0	1	1	1	6	-6
		Western Screech-owl	<i>Megascops kennicotti</i>	Non-Managed	8	6	2	16	10	6	7	17	20	-4
		Eurasian Eagle-owl	<i>Bubo bubo</i>	Yellow SSP	43	39	13	95	33	42	76	36	70	25
		Pharaoh Eagle-owl	<i>Bubo ascalaphus</i>	Non-Managed	0	0	0	0	0	1	1	1	1	-1
		Tawny Owl	<i>Strix aluco</i>	Non-Managed	0	0	0	0	0	1	2	0	0	0
		Verreaux's Eagle-owl	<i>Bubo lacteus</i>	TAG Monitored	14	12	2	28	10	12	21	15	20	8
		Northern White-faced Owl	<i>Ptilopsis leucotis</i>	Non-Managed	4	0	6	10	2	2	2	3	15	-5

Vulture	New World	Andean Condor	<i>Vultur gryphus</i>	Yellow SSP	48	4	6	58	23	30	72	40	85	-27
		Black Vulture	<i>Coragyps atratus</i>	Non-Managed	22	25	1	48	19	37	57	36	40	8
		California Condor	<i>Gymnogyps californianus</i>	Yellow SSP	44	0	5	49	6	7	146	55	150	-101
		King Vulture	<i>Sarcoramphus papa</i>	Green SSP	45	8	11	64	26	35	73	67	120	-56
		Turkey Vulture	<i>Cathartes aura</i>	Non-Managed	71	21	19	111	52	75	110	96	115	-4
	Old World	White-backed Vulture	<i>Gyps africanus</i>	TAG Monitored	8	0	9	17	4	3	8	9	50	-33
		Bearded Vulture	<i>Gypaetus barbatus</i>	Non-Managed	0	0	0	0	0	0	0	0	0	0
		Cape Griffon	<i>Gyps coprotheres</i>	TAG Monitored	23	0	20	43	8	8	32	31	50	-7
		Egyptian Vulture	<i>Neophron percnopterus</i>	Non-Managed	5	0	1	6	2	1	5	5	12	-6
		Cinereous Vulture	<i>Aegypius monachus</i>	Yellow SSP	46	0	15	61	19	18	49	47	70	-9
		Eurasian Griffon	<i>Gyps fulvus</i>	Non-Managed	1	0	0	1	1	0	0	1	0	1
		Himalayan Griffon	<i>Gyps himalayensis</i>	Non-Managed	1	0	0	1	1	0	0	0	0	1
		Hooded Vulture	<i>Necrosyrtes monachus</i>	Tag Monitored	36	12	9	57	8	8	41	32	50	7
		White-rumped Vulture	<i>Gyps bengalensis</i>	Non-Managed	1	1	1	3	1	0	0	1	0	3
		Lappet-faced Vulture	<i>Torgos tracheliotos</i>	Tag Monitored	25		3	28	8	9	27	25	50	-22
		Palm-nut Vulture	<i>Gypohierax angolensis</i>	Non-Managed	11	3	-1	13	4	5	10	5	15	-2
		Red-headed Vulture	<i>Sarcogyps calvus</i>	Non-Managed	0	0	0	0	0	0	0	1	0	0
		Ruppell's Griffon	<i>Gyps rueppelli</i>	Yellow SSP	43	0	20	63	13	12	53	51	75	-12
		White-headed Vulture	<i>Trigonoceps occipitalis</i>	Non-Managed	2	0	-1	1	1	2	2	2	0	1

TABLE 8. PROGRAM ROLES, GOALS AND ESSENTIAL ACTIONS

Program Roles, Goals and Essential Actions are listed for each species remaining as an SSP.

Common Name	King Vulture
Animal Program Designation	Green SSP
Primary Role	Education – Create awareness around Vulture SAFE
Goal 1	Solicit and maintain a wait list of five to ten institutions by 2024 so that available birds can be moved more quickly.
Goal 2	By 2023, produce and share a protocol, based on the previous year's successful trials, for reintegrating imprinted birds no longer suited for education programs back into the breeding population. Solicit at least two institutions to attempt reintegration using this plan before the next breeding and transfer plan.
Goal 3	Modify the existing California Condor isolation rearing guidelines to fit this species and share protocols with breeding institutions prior to the 2023 breeding season to reduce the probability of mal-imprinting of hand-reared King Vulture chicks.
Common Name	Andean Condor
Animal Program Designation	Yellow SSP
Primary Role	Maintain a genetic reservoir for Columbian program (with irregular reintroduction to the <i>in situ</i> population).
Goal 1	Create reproductive pair assessments to examine courtship and copulation behaviors, laying, incubation and hatching history, chick rearing behavior, success or failure. Assess institutions' staff experience in successfully performing embryo sexing. Complete survey questionnaire by June 1, 2022. Circulate questionnaire to SSP facilities by June 15, 2022. Collate and examine survey response by July 2022. Assess results, confer with population biologist and program advisors and make recommendations by September 2022.
Goal 2	Contact all officers and advisors and determine continuing interest in serving in SSP roles by June 15, 2022. Advertise any SSP management positions to Institutional Representatives and hold elections by June 2022. Assess advisor positions, recruit for any vacant positions and recruit a new nutrition advisor by May 15, 2022. Confirm updated SSP management group and advisors by August 15, 2022.
Goal 3	Establish Zoom calls with Colombian Zoo and/or NGO partners every 1-2 months by June 2022. Develop collaborative short- and long- term goals between AC SSP, Colombian Zoo and NGO partners by June 2022. Establish strategies between stakeholder groups on approaching newly appointed Environmental ministry official to develop an MOU with the AC SSP for multiple years, Re-engage with Chilean NGO partners and determine needs and discuss short- and long-term goals of their conservation programs by the end of 2024.
Common Name	Burrowing Owl
Animal Program Designation	Yellow SSP
Primary Role	Education – ambassador animals
Goal 1	Contact current program IRs to gauge interest and solicit candidates for vice chair for the SSP and select a vice chair from that pool by May 2022.

Goal 2	Improve welfare for burrowing owls used in outreach programs by completing ambassador animal guidelines, including best practices for acquisition of ambassador burrowing owls, and distributing to holding institutions by December 2022. Poll existing holders to determine future demand for ambassador burrowing owls and the ability/willingness of institutions to produce chicks for outreach using best practices by July 2023 (ahead of 2024 breeding and transfer plan).
Goal 3	Work with the veterinary advisor to determine the three most reported medical concerns for captive burrowing owls by December 2023. Poll all holders on the occurrence of those concerns in their current or historic populations by March 2024. Review and share results of investigation with holding institutions by October 2024.
Common Name	California Condor
Animal Program Designation	Yellow SSP
Primary Role	Maintain an Assurance/Reintroduction population
Goal 1	Create an SSP Steering Committee to support the program leader in the goals of creating a care manual and AZA SAFE program by December 2023.
Goal 2	Work with experts from facilities where California condors have bred since the beginning of the recovery program to create an animal care manual within five years. This will be an important resource as the number of condor release sites increases, potentially putting more birds in more facilities. Publishing this manual before the end of this RCP cycle – December 2025.
Goal 3	Support the recovery plan by creating a California condor AZA SAFE program and an action plan to support the USFWS work to conserve the species by 2025.
Common Name	Cinereous Vulture
Animal Program Designation	Yellow SSP
Primary Role	Education – Create awareness around Vulture SAFE
Goal 1	Improve breeding success by developing techniques for semen collection and artificial insemination. Work with St. Louis and Denver Zoos on initial semen collection attempts from the male vulture at St. Louis during the 2022 breeding season with the goal of refining techniques and inseminating their female in the 2023 breeding season and beyond. Identify a second pair with which to initiate AI by 2024 breeding season.
Goal 2	Increase space available by recruiting two new participating institutions by the end of 2024 and by identifying two new or current institutions that will commit to holding a group of juveniles and sub-adults until they become sexually mature. Identify the one such institution by the end of 2023 to begin placing offspring in 2024 and identify a second institution by the end of 2025 to begin placing offspring in 2026.
Goal 3	Re-initiate work identified at the Cinereous Vulture Workshop in Antwerp, Belgium and cooperation with Ikh Nart Nature Reserve in Mongolia that were both stalled due to the COVID-19 pandemic. Draft plans for both by the end of June of 2023.
Common Name	Eurasian Eagle Owl

Animal Program Designation	Yellow SSP
Primary Role	Education – ambassador animals.
Goal 1	To maintain genetic diversity within the population, use the recommendations in the 2020 Breeding & Transfer Plan to gain seven new breeding pairs of owls, with the goal of producing two chicks by end of 2023.
Goal 2	In order to help new breeding pairs be more successful and reach the target population of 80 birds, create and develop a breeding setup and hand-rearing chick reference guide. The program manager will contact institutional representatives to fill out a questionnaire and compile and distribute information to current and potential breeding institutions by the 2023 breeding season.
Goal 3	Most interest in eagle owls is for hand-reared, ambassador birds. However, some breeding institutions prefer to allow the owls to rear the chicks, producing parent-reared owls. To maintain genetic diversity within the population, the new breeding pairs of owls established in the previous Breeding and Transfer Plan need to successfully produce chicks, including parent-reared chicks. With low interest in parent-reared chicks, placement may be difficult. Before Fall 2024, recruit at least one new institution where a parent-reared chick can be placed.
Common Name	Pygmy Falcon
Animal Program Designation	Red SSP
Primary Role	Education – Display and ambassador animals
Goal 1	Increase the number of participating institutions by exploring non-AZA options such as private breeding facilities, utilizing the space survey to locate additional AZA institutions interested in exhibiting Pygmy Falcons, and providing with fact sheets and sustainability reports. Add five new participants by the end of 2025.
Goal 2	Work with facilities that have successfully hand-reared birds without imprinting to learn their techniques and include a protocol in the 2024 breeding and transfer plan.
Goal 3	Improve SSP structure by recruiting a vice chair by the end of 2023 to help the flow of information to IRs, keep on track with population goals, and provide expert information on husbandry and breeding.
Common Name	Ruppell's Vulture
Animal Program Designation	Yellow SSP
Primary Role	Education – Create awareness around Vulture SAFE
Goal 1	Communicate with existing breeding colonies and continue to encourage breeding and recruitment of un- and under-represented genetics (ongoing). Identify and recruit two new AZA holding facilities, including at least 1 new breeding colony, by December 2022. Recommend transfers to new facilities by 2024. Build capacity at new and existing facilities through 2027.

Goal 2	Current holders have been communicated to with the expectations to no longer pinion (immediate). Existing holders who are unable to continue with their birds and need to locate other placements will be asked to communicate with the SSP to identify placement options by the end of 2022. SSP will reinforce the new direction by recruiting only new institutions with netted enclosures and/or the ability to manage via wing clipping only.
Goal 3	Recruit three under-represented, non-AZA individuals into an AZA facility by recommending transfers and/or application and approval of a non-AZA sustainability partner by 2025.
Common Name	Spectacled Owl
Animal Program Designation	Yellow SSP
Primary Role	Education – ambassador animals
Goal 1	Many of the spectacled owls in North America are in education programs as ambassador animals. The goal is to have a minimum of five breeding pairs set up to be ready to fill the future needs for ambassador birds and exhibition birds by 2025.
Goal 2	Work with the population biologist to determine the number of founders needed over what time frame to retain 90% of genetic diversity at 100 years and identify potential imports of unrelated birds from the European Association of Zoos and Aquaria, Zoological Association of America and South America by 2024.
Goal 3	The veterinary advisor is working on assessing the population to determine the possible causes of the brittle feather conditions that are seen in a large number of our captive population. This will include investigating potential nutritional factors, husbandry practices, genetic and congenital possibilities, and environmental conditions. Project to be finished by June 2025.

ALTERNATIVE SPECIES LIST

Because there are a large number of native, non-releasable, raptors that compete with managed (SSP or TAG-monitored) species for critical space, the TAG would like institutions to carefully consider contexts in which native species could be replaced by TAG managed animals.

The TAG's most recent space survey indicates that 313 native eagles (Bald and Golden), 149 Great Horned Owls, and 163 native vultures (Black and Turkey) are currently held in AZA collections. If just 10% of these spaces could be recruited for higher-priority, managed species, the addition of these 62 spaces could mean the difference between maintenance and loss of important species from AZA collections and allow for continued growth of SSP's. Institutions housing native raptors are strongly encouraged to consider replacement of these species, over time, with TAG-recommended species.

For institutions currently housing native species:

- Please consider if this exhibit is strictly zoogeographically themed, requiring that your institution use this space only for native, North American birds.
- For a cold-climate zoo, with a fully enclosed space currently housing native eagles, please consider another large, TAG-recommended, cold-hardy raptor (Andean Condor, Eurasian Black Vulture, Steller's Sea Eagle, Snowy Owl, Eurasian Eagle Owl).
- For a warm-climate zoo, with a fully enclosed space currently housing native eagles, please consider another large, TAG-recommended, temperate-weather raptor (Ruppell's Griffon Vulture, Eurasian Black Vulture, African White-backed Vulture, Cape Griffon Vulture, Lappet-faced Vulture, Harpy Eagle).

- Consider whether a non-native managed species could serve as an adequate proxy for the educational themes of your space currently held by natives. Many educational themes, often demonstrated by ambassador raptors in zoo programming (physical adaptations, unique behaviors, conservation stories, etc.), can be interpreted using managed species, just as well as any native.
- Please consider the several raptors (owls, eagles, vultures) that have worked well as ambassador animals, early in life, successfully transitioning into breeding situations once adult. This strategy may offer AZA zoos opportunities to utilize high-priority raptor species as valuable ambassadors, without removing these birds from a managed (SSP) population.
- Please use the Replacement Table, below, in consideration of options to replace (over time) your collection's native, non-releasable, raptors with managed (SSP or TAG-monitored) species.

TABLE 9. NATIVE RAPTORS REPLACEMENT SUGGESTIONS

This table contains species that are likely suitable replacements for native raptors with regards to husbandry and story-telling opportunities.

<u>Native Raptors, housed in 13+ AZA Institutions</u>	<u>SSP Species, Likely Suitable to Replace Natives</u>	<u>TAG-monitored Species, Likely Suitable to Replace Natives</u>
Turkey Vulture	King Vulture	Eurasian Eagle Owl
Black Vulture	Spectacled Owl	Snowy Owl
Red-tailed Hawk		Hooded Vulture
Swainson's Hawk		Verreaux's Eagle Owl
Harris' Hawk		
Great Horned Owl		
Barred Owl		
Peregrine Falcon		
Bald Eagle	Andean Condor	Steller's Sea-eagle
Golden Eagle	Eurasian Black Vulture	Eurasian Eagle-owl
	Ruppell's Griffon Vulture	African White-backed Vulture
		Cape Griffon Vulture
		Lappet-faced Vulture
		Hooded Vulture
		Harpy Eagle
American Kestrel	African Pygmy Falcon	
Barn Owl	Burrowing Owl	
Eastern Screech-owl		



Photo Credit, Scott Tidmus, Disney's Animal Kingdom

SPECIES PROFILES

For each program, the leaders have developed a species profile that will assist collection managers in finding more information about the programs and who to contact if they have questions. These are also used to show status of the programs as well as any conservation programs and finally the demographics and genetics of the population. The TAG has ten species that meet the AZA and TAG criteria to be SSP populations; these programs will continue to be managed based on the appropriate SSP category and definitions. We also have eight TAG Monitored programs; these are programs we know have some structure behind them and could reach SSP status within the next RCP cycle.



Photo Credit Scott Tidmus, Disney's Animal Kingdom



Photo credit Tracy Aviary

SSP MANAGED PROGRAMS

KING VULTURE *Sarcoramphus papa*

AZA Program Status: Green SSP

Program Leader: Shelly Collinsworth

IUCN Status: Least Concern, decreasing

CITES Status: Appendix III

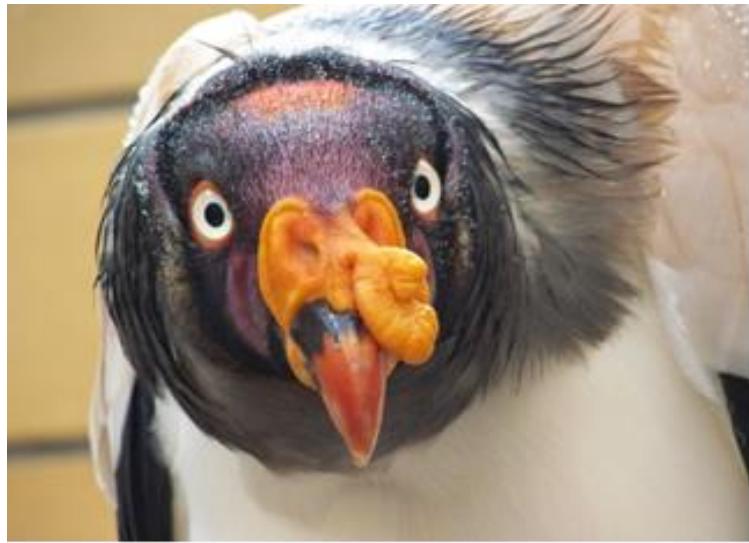


Photo credit Rene Serafino, Fort Worth Zoo

Demographics and Genetics:

Current Population Size (N)	83
Number of Holding Institutions	37
Males	37
Females	45
Unknown	1
Target Population Size	100
Historic Population Growth Rate	0.996
Projected Population Growth Rate	1.018
Current Founders	49
Gene Diversity (GD%) Potential	98.5
Population Mean Kinship (MK)	0.0296
Mean Inbreeding (F)	0
Gene Diversity at 100 Years From Present (%)	91.7

Distribution:

King Vultures are found in Central and South America from southern Mexico to northern Argentina. South American populations do not extend into Chile due to terrain and high elevations. Breeding populations are extant now in Uruguay.

Diet:

King vultures are scavengers that will feed with many other Cathartid vulture species.

Housing:

Enclosure height should be at least 12ft (4m) if housed in a closed topped aviary, though some birds have been housed with success in large open topped yards (birds are wing trimmed in these enclosures). These birds are sensitive to cold weather and can sustain damage to their feet and toes without access to adequate warmth. Heat should be provided to

birds near common roosting sites when temps drop below 50°F (10°C) and birds should be locked into heated holding at freezing temperatures.

Optimal habitat size is a minimum of ~900ft²-1000 ft² (300m²-333 m²) with ~15ft -20ft (5m-7m) height.

Two birds of either same or differing sex can be held together. Often larger groups can be antagonistic toward each other unless given extreme amounts of space. An exception can be seen when a breeding pair is housed with an offspring for up to 18 months.

In smaller enclosed aviaries, it is not recommended to mix species. Some institutions have had success with larger open-topped enclosures (where birds are kept trimmed). In these habitats, king vultures have been mixed with tapir, Guanaco, rhea, curassow, and waterfowl.

Reproduction:

Birds have been recorded to be able to breed at age four, but full maturity may not occur until six years of age.

Nest site descriptions can vary due to individual pair preference. Options may include platform nest areas, large nest boxes, or ground scrapes.

One white egg is incubated for ~56 days

Chicks hatch out with bare gray skin, and should be able to stand around day ten and be able to pick up their own food without parental help by day 30. Black plumage will grow in and last until the juvenile is between four and six years, before changing to distinctive mature coloring.

Both parents generally participate in chick rearing, but individual differences have been seen where only one parent rears. Chicks fledge between 72-105 days but will need assistance from parents for several months after they leave the nest.

Social Structure:

In the wild, birds are found solitary or in breeding pairs, sometimes with a single juvenile accompanying their parents. Each group has a clear hierarchy. This species will join other Cathartid vultures in scavenging.

In zoos, birds in education programs are often reported as aggressive by their human handlers once adult coloring arrives at four to six years. This may be due to the onset of reproductive maturity and can be mitigated with socialization with other vultures or focused training by 1-2 handlers that build trust. When housed for exhibit instead of as ambassador birds, king vultures are best housed in sets of two. If more than two are housed in an area, sufficient space must be allowed for pairs to set territories. In any setting with more than one bird, a dominant bird will eat first and inspect all food before allowing other birds a chance to eat. Feed multiple stations to ensure subordinate birds have access to food.

Management Challenges:

Birds in education programs are often reported as aggressive by their human handlers once adult coloring arrives at four to six years. This may be due to the onset of reproductive maturity and can be mitigated with socialization with other vultures or focused training by one to two handlers that build trust. If an institution is not willing to work with a bird, rehoming is often requested. These birds may have difficulty re-integrating with breeding and exhibit populations due to lack of social skills. One of the program's goals is to establish protocols to make this reintegration more successful.

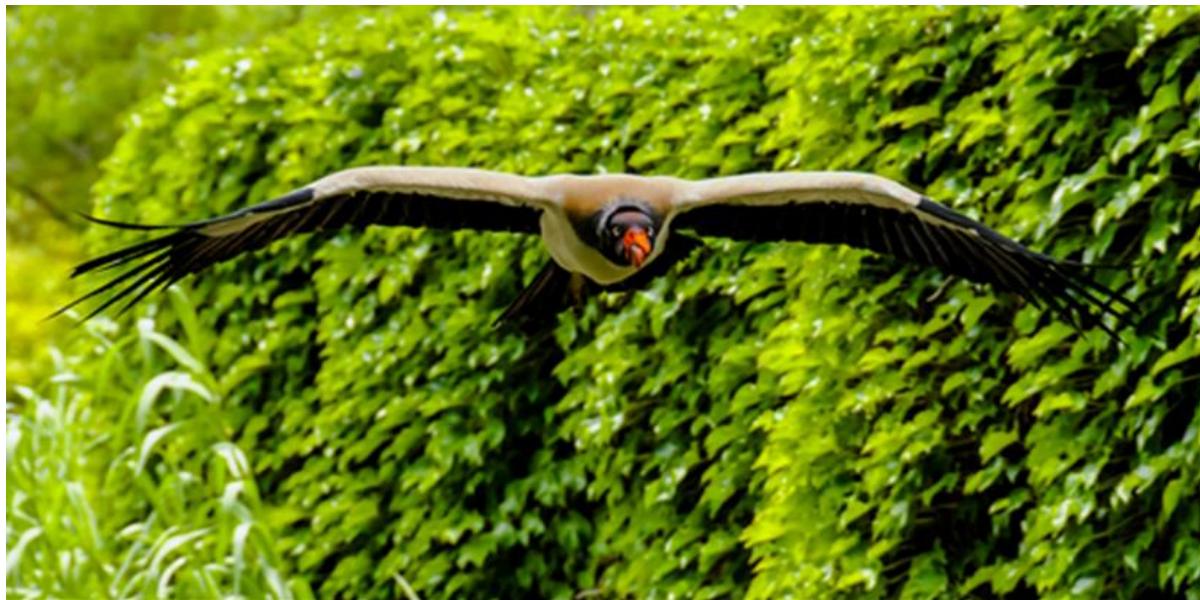


Photo credit Helen Dishaw, Tracy Aviary

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ANDEAN CONDOR

Vultur gryphus

AZA Program Status: Yellow SSP

Program Leader: John Azua

Vice-Coordinator: Andrew Schumann

Studbook Keeper: Ron Webb

IUCN Status: Vulnerable

CITES Status: Appendix II



Photo credit Los Angeles Zoo

Demographics and Genetics:

Current Population Size (N)	67
Number of Holding Institutions	28
Males	29
Females	38
Unknown	0
Target Population Size	85
Historic Population Growth Rate	1.023
Projected Population Growth Rate	1.004
Current Founders	38
Gene Diversity (GD%) Potential	98.19
Population Mean Kinship (MK)	0.0245
Mean Inbreeding (F)	0.0049
Gene Diversity at 100 Years From Present (%)	89

Distribution:

Andean condors are found in the Andes, from Venezuela to Tierra del Fuego, descending to sea level in Peru and Chile. They are most often seen in Peru, Chile, and Argentina.

Diet:

This species is primarily a scavenger that feeds on carrion of large and medium-sized mammals (guanacos, livestock, marine mammals on the coast). Feeding of animal carcass and whole-body prey as a practice desired by some AZA institutions to stimulate activity and normal feeding behavior. Carrass refers to the body of an animal other than that of rodents, rabbits, invertebrates, or day-old poultry. Condors in human care can also be fed smaller prey such as large rats, rabbits, guinea pigs, and ground horsemeat.

Housing:

It is recommended this species have a year-round outdoor exhibit with shelter in the form of artificial rock cave with possible heated element and/or evergreen tree. They can tolerate warm temperatures provided they have access to shade and shallow pools. Habitats can be shady as birds can benefit from intermittent to full sun exposure.

Optimal habitat size is 54ft x 36ft x 25ft (16.5m x 11m x 7.6m) or 61,591ft³ (1744m³)

The preferred group size is one pair. This species is not compatible with others.

Reproduction:

Male and female Andean condors achieve adult plumage at six to seven years. They have reproduced successfully as young as seven years old, but most birds do not breed until they are in their teens.

The male typically initiates the ritualized courtship display, approaching the female with his body upright, his neck arched, inflated, and a more intensely colored red, his ventral body feathers extended outward, and his wings fully open in a forward-curving arc. He walks stiffly, swaying from side to side. Initially he may make a hissing sound, similar to air brakes on a truck, followed by a deep, repetitive drumming sound that has been compared to a helicopter. If the female is interested, she will remain near him and may bite at his neck or wings, although not aggressively. Females may also engage in the wings-out courtship display, although typically not as elaborately or for as long as the male. When initiating copulation, the male may first raise his foot toward the female and make a few attempts before stepping up on her back. Displays and copulation may occur on perches or on the ground.

Prior to observation of courtship displays, males may become increasingly aggressive toward females, sometimes inflicting bite wounds, usually around the head and neck, that may require medical attention. This increased aggression may be intensified over food and the pair may need to be separated during feeding to ensure the female is receiving adequate amounts and to avoid injuries.

The nest site is generally a shallow scrape of sand in a cave or artificial nest box. The clutch is one white egg. Eggs may be laid between March and June and fertility for established pairs is typically very high. If first eggs are removed or otherwise lost, and it is still early in the breeding season, the female may double-clutch and lay a replacement egg approximately 30 days later. Eggs are most often laid overnight or in the early morning hours. Incubation period is 56 - 62 days. A chick is fully feathered and can fly at 6 months. Both parents are responsible for parental care, which continues for over 1 year. Juveniles are brown with dark bare skin, developing adult plumage after five to eight years.

Social Structure:

Andean condors in the wild are gregarious during the non-breeding season, feeding and roosting communally, but are highly territorial when nesting. Males vigorously defend the nesting area from intruders, including other condors, and potential competitors or predators. In the wild, Andean condors breed seasonally but the season varies with latitude.

In human care, Andean condors are often kept in pairs. In the North American zoo population, Andean condors typically breed from mid-winter through mid-summer, also depending on latitude, with birds at more southern latitude beginning earliest and having the longest breeding season. Females may spend 1 or 2 nights in the nest box prior to egg laying

In some limited situations, young condors may be kept in a trio for several months for social acclimation.

Management Challenges:

Challenges in managing this species in-situ include ritual use in local cultures and persecution due to perceived threat to livestock. Increase in human population has decreased condor habitat and prey base. Low reproductive rate (reproduce late in life and every other year) and long lifespan makes condors vulnerable to threats. For the ex-situ population, management challenges include proper incubation methods, monitoring egg hatches and tracking parentage, and bringing new institutions up to speed quickly on husbandry practices.



Photo credit Los Angeles Zoo

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BURROWING OWL

Athene cunicularia

AZA Program Status: Yellow SSP

Program Leader: Yvonne Strode

IUCN Status: Least Concern

CITES Status: Appendix II

Demographics and Genetics:

Current Population Size (N)	158
Number of Holding Institutions	50
Males	70
Females	81
Unknown	7
Target Population Size	170
Historic Population Growth Rate	0.945
Projected Population Growth Rate	1.011
Current Founders	20
Gene Diversity (GD%) Potential	95.88
Population Mean Kinship (MK)	0.0814
Mean Inbreeding (F)	0.0397
Gene Diversity at 100 Years From Present (%)	75.7



Photo credit Tracy Aviary

The burrowing owl is only slightly dimorphic. On average, males have longer tails, weigh 0.28oz (8g) more and have a 0.12in (3 - 4mm) greater wingspan than females. Females generally have more barring on the breast and are darker than males. This is especially apparent immediately preceding the postnuptial molt.

There are 18 recognized subspecies with two residing in North America: *Athene cunicularia hypugaea* and *A. c. floridana*. All birds in the managed population are *A. c. hypugaea*.

Distribution:

Burrowing owls are distributed in the southern regions of the Canadian provinces of Manitoba, Saskatchewan, and Alberta. The species has been reintroduced into British Columbia where it had been extirpated. In the United States, there is an isolated population in Florida, while the majority resides in the western part of the country, from the Canadian to the Mexican borders and from California to the extreme western portions of Minnesota and Iowa. The species is also located in suitable habitats throughout Central and South America and on the islands of Cuba, Hispaniola, the northern Lesser Antilles, Bahamas, Guadalupe, and Clarion.

During the winter, the species vacates the northern areas of the Great Plains and Great Basin. Populations as far south as northern New Mexico and Arizona migrate although there are scattered records of wintering as far north as Montana. In the United States, California is the most important state for over-wintering, followed by New Mexico, Arizona, Mexico, and Texas.



Diet:

Burrowing owls are highly opportunistic feeders, primarily eating arthropods and small mammals. Birds are also taken but are usually not a significant part of the diet except during the prey species' nesting season. In Florida, reptiles and amphibians may also be important components of the diet. Carrion is occasionally eaten, as are small amounts of vegetation. They employ four methods to capture prey: ground foraging, hunting from a perch, hovering, and fly catching. Ground foraging is the primary means for hunting used by both sexes.

Prey is caught with the talons and may be transferred to the beak for transport or presentation to young. The upper limit for a prey item has been estimated at 4.0oz (115g). Storing food, usually at the burrow entrance, is not uncommon while caching food away from the burrow is rarely seen. An adult requires 15.5 +/- 1.86 kcal/day but there are records of birds fasting for several days while over-wintering in northern latitudes

Photo credit Tracy Aviary

Housing:

They can be housed outdoors over a wide range of temperatures – over 100⁰F (38⁰C) to under 0⁰F (-17⁰C). Optimal habitat size is 100 ft² (30.5m²) minimum. Barriers that protect against predation and unwanted digging should be in place. During nesting, the distance between the exhibit and public barrier may need to be increased if birds become agitated. Mulch, dirt and/or natural substrates should be provided; the use of sand should be monitored as foot irritation has occurred. Perches should be provided in the 24in - 36in (0.6m - 0.9m) range and logs and plants on the ground should be present to provide privacy. Burrowing owls are compatible with a wide variety of other bird species, although some isolated problems have been encountered. They are also compatible with turtles and small mammals including armadillos, rabbits, and squirrels.

Reproduction:

Both males and females are sexually mature at one year of age.

During pair formation, the male will court several females with his primary song and displays. While singing, the male will bend forward, almost parallel to the ground with his primaries and secondaries held together over his back and white patches of the throat and brow fully displayed. Other courtship behaviors include circular flights, billing and preening of the head and face, and the male presenting food to the female.

Copulation is done at the burrow, most often at dusk. The female will move towards or away from the singing male at the start of copulatory behavior. The male will then stop singing, stand and look down at the female with white patches exposed and feathers raised. The female will stand erect with exposed white patches. The male will then fly to the female and mount her, giving the primary call with or without the male warble and may terminate with a tweeter call. The male flaps his wings while mounted, probably for balance. He may scratch the female's head, and both may bill nip. Copulation lasts four to six seconds and occurs one to three times per evening.

Burrowing owls can dig their own burrows in loose soil but most often use existing burrows made by prairie dogs, badgers, ground squirrels, or other burrowing animals. They are opportunistic when natural burrows are not available, using irrigation pipes, buried cars, etc. Burrow sites are ideally located in areas of low vegetation > 4in (>10 cm) and near perches, usually two within 13in -31in (35-80cm) of burrow.

Both members of a breeding pair will renovate and maintain the burrow by standing on one leg and flinging the substrate back with a few strokes of the other leg. The opposite wing may be extended for support and the beak may be used as well. Males and females have been seen digging with equal frequency, but females worked longer. The pair may work on several burrows at first and then concentrate on one. Burrow sizes and shapes are dependent upon the species that first excavated them.

All burrows have at least one turn to keep the nest chamber in darkness and a mound of soil at the entrance. The tunnel and nest chamber are lined with shredded cow or horse dung throughout most of the breeding season.

In managed care, a nest box 12in x 12in x 12in (30.5cm x 30.5cm x 30.5cm) and flexible tubing have been used successfully. Nest boxes should have a removable top to allow for monitoring. Several institutions have successfully used irrigation valve boxes 20in x 15in x 12in (50cm x 38cm x 30.5cm) attached to 4in (10cm) corrugated plastic drainpipes. It is recommended to have a 90-degree bend in the pipes to keep the nesting chamber dark. Wooden boxes and plastic coolers can also be used. Further information can be found at <https://wdfw.wa.gov/publications/01199>

The burrowing owl has the largest clutch size of any North American raptor, laying up to 12 eggs. The eggs are about the size of ping-pong balls and white when laid, but soon become covered with flea excrement.

In managed care, the median clutch size hatched is three. ~55% of hatchings occur in May – June.

Eggs are incubated for 28-30 days. In some areas, incubation starts after the first egg is laid while in others, it does not begin until the clutch is complete. Only the female incubates, with the male feeding her in the early morning and evening. The male will stay within 820ft (250m) of the nest burrow during the day.

Burrowing owls in Florida have been known to double clutch. The western owls may lay a smaller second clutch if the first is destroyed early in the breeding season and very rarely produce a second brood.

The chicks first emerge from the burrow at 10 - 21 days of age and stay cautiously near the entrance. After one week, they can be seen running about flapping their wings but still stay close to the burrow.

Four weeks after emergence chicks can fly well but remain within 19in (50cm) of the burrow. Currently, they are foraging independently. By eight to nine weeks of age, the chicks are gathering most of their own food. Owlets are not easily distinguished from adults at ten weeks of age.



Photo credit Omaha's Henry Doorly Zoo

Social Structure:

Wild burrowing owls have three types of social groupings: solitary birds, one breeding pair and a concentration of birds. Colonies consist of 9 -19 birds and there is no complex social order. Colonies break up after the chicks are grown and the owls become nomadic. Migrants are solitary during the winter.

Under human care, best housed in pairs, offspring can remain with the parents for ~8 months at which point aggression and/or unwanted breeding may be observed. Housing multiple males is not recommended.

Management Challenges:

Birds can quickly construct undetected nests to produce unexpected chicks.

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CALIFORNIA CONDOR

Gymnogyps californianus

AZA Program Status: Yellow SSP

Program Leader: Rachel Ritchason

IUCN Status: Critically Endangered

USFWS: Endangered

CITES Status: Appendix I

Demographics and Genetics:

Current Population Size (N)	106
Number of Holding Institutions	6 + wild
Males	52
Females	45
Unknown	9
Target Population Size	50*
Historic Population Growth Rate	1.068
Projected Population Growth Rate	1.060
Current Founders	13
Gene Diversity (GD%) Potential	95.8
Population Mean Kinship (MK)	0.0539
Mean Inbreeding (F)	0.0142
Gene Diversity at 200 Years From Present (%)	93.8



*Photo credit Joel Sartore/ National Geographic
Photo Ark (Phoenix Zoo)*

*Reflects what the average held in captivity for this reintroduction program species.

Description:

California condors have black plumage, with white underwing-coverts. Their long ruff feathers are also black. The head and neck are bare with variable pink, orange, and red colors. Immature animals have bare gray skin. This is the largest obligate avian scavenger in the US; they are a highly social K-selected species.

Wingspan: 10ft (3m)

Wt. 18lbs - 22lbs (8-10kg)

Behavior:

California Condors can cover hundreds of miles in one flight as they soar for hours at a time, looking for carrion. These long-distance travelers pair off during the breeding season but are highly social at roosting, bathing, and feeding sites; individuals recognize one another. Generally, condors are not aggressive towards each other, though dominant birds will threaten opponents by standing erect, inflating air sacs in the head and neck, opening the bill and eventually lunging toward the opponent. Condors bathe frequently; mates and chicks help groom each other's feathers and skin. They clean up after feeding by rubbing their head and neck on a nearby rock or another surface. Condors sun themselves, which helps dry feathers prior to flight and helps the bird warm up; sunning also utilizes the sun's UV rays to kill microorganisms on

the birds' feathers. Condors roost together on horizontal limbs of tall trees, on ledges, or in cliff potholes. Sleeping condors sometimes lie prone on their perch with their heads tucked behind their shoulder blades. Young condors play, especially as late-stage nestlings, mock capturing all sorts of objects and vegetation, and leaping about in seeming exuberance.

Husbandry:

They are tolerant of wide temperature range from about 45°F to 115°F (7.2°C to 46.1°C) though shelter is needed to allow thermoregulation in extreme temperatures. The average enclosure should be about 54ft x 36ft x 25ft (16.5m x 11.0m x 7.6m). Their diet consists of carrion with fasting days each week. They can be kept in pairs or larger flocks.

Reproduction:

This species can be sexually mature as early as 5 years old, although average first age of breeding is closer to seven years old. Generally, they form monogamous pairs that share nesting and rearing duties, although trio nests have been observed in the wild. Rely on natural cavities for reproduction, most commonly caves in cliffs or burned-out redwood trees. Usually, one egg is laid from February to May and incubated for 56-58 days; however, condors do have the ability to double or triple clutch if their egg is taken or lost early enough in the laying season. This behavior made the captive breeding program such a success in condor recovery. They feed their young by regurgitation and both mother and father parent equally. Chicks take their first flight at about six months old but are still dependent on parents for several months afterwards.



Conservation Projects/Connections:

Since the capture of the entire population of 27 birds in 1987, the species has reproduced well in zoological facilities. First released by USFWS at Hopper Mountain National Wildlife Refuge in Ventura Co. California, they have now been released in five areas within their former range including Baja California Mexico, and a new release site in the Pacific Northwest is planned in 2022. Except for the historical mortality factor of lead poisoning, the birds are doing exceptionally well. Condors are highly susceptible to lead ingestion from wild game killed using lead ammunition. The resulting lead toxicity is the most salient risk to condors and without mitigation of the problem, their recovery is in doubt. Non-lead alternatives now exist with nearly equivalent cost and ballistics. Both education and legislation are being employed to influence behavioral change in hunters with highly variable results. Change takes time and the work continues in regional areas as well on the national scale.

Photo credit Eddie Owens, USFWS

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Photo credit Ken Bohn, San Diego Zoo Wildlife Alliance

CINEREOUS VULTURE

Aegypius monachus

AZA Program Status: Yellow SSP

Program Leader: Mary Jo Willis

IUCN Status: Near Threatened

CITES Status: Appendix II

Demographics and Genetics:

Current Population Size (N)	58
Number of Holding Institutions	20
Males	27
Females	27
Unknown	2
Target Population Size	70
Historic Population Growth Rate	1.010
Projected Population Growth Rate	0.978
Current Founders	15
Gene Diversity (GD%) Potential	95.6
Population Mean Kinship (MK)	0.0750
Mean Inbreeding (F)	0.0013
Gene Diversity at 100 Years From Present (%)	83.1



Photo credit Denver Zoo

Distribution: These Vultures have a palearctic distribution ranging from the Iberian Peninsula in the west through the Balkans, Turkey, Caucasus, Iran, Afghanistan, and central Asia to northern China, Korea, and the Far East portion of Russia.

Diet:

This species is primarily a scavenger that feeds on carrion. Their diet in managed care can include rats, mice, quail, chicks, rabbits, guinea pigs, ox or horse tails, partial or whole carcasses, and commercially prepared bird of prey meat. During warmer months, a weekly fast day is recommended.

Housing:

Readily kept outdoors, this species handles temperature extremes very well. They are easily kept outdoors in low temperatures down to 0°F (-17°C) and lower if a windbreak and dry substrate are available/used by the birds. They handle high temperatures over 100°F (37.7°C), particularly if shade is offered, and drier environments easier compared to humid environments.

The optimal outdoor enclosure size is a 100ft x 50ft x 20ft (30m x 15m x 6m) covered aviary to allow flight, copulations and nesting. In northern climates, provide access to a connected, sheltered or indoor area for rare occasions of harsh weather conditions (temp. wind, snow depth). Birds have been held and bred in significantly smaller enclosures of 12ft x

16ft x 10ft (4m x 5m x 3m); however, breeding success is most likely occurring in well-established pairs in these smaller enclosures. Flight-restricted birds (wing-clipped) have been held in varying size open-topped enclosures but need to be monitored during windy periods as birds can easily acquire lift.

Large groups can be held together in the non-breeding season – maximum number is dependent on enclosure size. Pairs will establish territories within a larger group enclosure. Mixed-species habitat success can vary with enclosure dynamics. They have been successfully housed with hoofstock (gazelle and impala) and various birds such as guinea fowl, ground hornbill, white stork, crane species, and other vulture species.

Age at Sexual Maturity:

Males and females have been reported to breed as early as three to four years of age in the wild. In human care, the first reproductive age is reported at seven yrs. of age, but reproduction can often be delayed until 12-13 years of age (see Management Challenges). Courtship displays include head weaving, head and neck displays, cooperative/mutual preening, and cooperative nest building.

Large stick nests (approx. 3ft - 4ft in diameter/0.9m x 1.2m) are constructed on rock ledges or in trees, although some nests are found on the ground. Nest cups are lined with finer material, such as livestock hair, small twigs and plant material, such as *Artimesia* sp. In human care, artificial platforms are sometimes used.

Single egg clutches can be encouraged to double clutch. Egg is typically a chalky white color; some eggs have rust-colored flecks. Eggs are incubated for 53-56 days.

They have precocial chicks with white downy feathers at hatch. These change as the chick grows to very dark brown feathers by fledge. Chicks cared for by both the male and female. Initially fed by parents but transitions to being fed larger pieces; self-feeding by three weeks of age. Primary blood feathers emerge on wings at 25-30 days of age. Fledge occurs around 100 days. In human care, juveniles can be kept with adults until the onset of the next breeding season.

Social Structure:

In the wild, larger groups can be found in the non-breeding season. Pairs establish nest territories at the onset of the breeding season in January/February.

Under human care, birds of reproductive age are typically set up as breeding pairs. Multiple pairs and unpaired adults, sub-adults, and juveniles can easily be held together during the non-breeding season, typically separated into pairs during the breeding season. Sub-adults can be held together year-round.

Management Challenges:

Hand-reared birds are taking longer in comparison to wild birds to pair bond, nest build, and successfully copulate/reproduce. Goals are to have the F3 generation to be parent-reared or puppet-reared and socialized/watch normal adult interactions at a young age. Hold groups of sub-adults together until 5-7yrs of age to allow for socialization and potential mate selection that supports healthy genetic and demographic pairings.

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Willis, M. J., and Lynch, C. 2021. Eurasian Black Vultures (*Aegypius monachus*). AZA Species Survival Plan® Yellow Program Population Analysis & Breeding and Transfer Plan. AZA Population Management Center: Chicago, IL.



Photo credit Denver Zoo (in Mongolia)

EURASIAN EAGLE OWL

Bubo bubo

AZA Program Status: Yellow SSP

Program Leader: Ashley Graham

Vice-Coordinator: Steve Sarro

IUCN Status: Least Concern

CITES Status: Appendix II



Photo credit Natural Encounters, Inc

Demographics and Genetics:

Current Population Size (N)	80
Number of Holding Institutions	46
Males	45
Females	33
Unknown	2
Target Population Size	100
Historic Population Growth Rate	1.061
Projected Population Growth Rate	1.054
Current Founders	unk
Gene Diversity (GD%)	unk
Population Mean Kinship (MK)	unk
Mean Inbreeding (F)	unk
Gene Diversity at 100 Years From Present (%)	unk

Description:

The Eurasian eagle owl (also known as the great or northern eagle owl) has a significant range that includes most of Europe and Scandinavia, western Asia, and eastern Asia (north of the Himalayas). Overall, 16 subspecies of Eurasian eagle owl are recognized. Weighing between 3.3lbs -9.0lbs (1.5kg -4.2 kg), with a wingspan of up to 6.0ft (1.88m), this is among the world's largest owls, inhabiting woodland, open forest, taiga, and steppe. It has been suggested that both habitat selection and nesting success rates depend primarily on the availability of specific suitable prey species. Highly adaptable, eagle owls may be active either at night or in the day, hunting a variety of prey from the air or an open perch. The majority of the diet consists of small mammals, but may include larger mammals, birds up to the size of herons or hawks, and reptiles. Breeding as early as two years of age, these owls tend to be monogamous, using the same nesting site year after year. Eagle owls have been known to nest on cliffs, in nests built by other birds, or on the ground. As many as four eggs (but more often 2) are laid, with a three-day laying interval, and incubated (almost exclusively by the female) for 34-36 days.

The first recorded appearance of Eurasian eagle owls in North American zoological collections occurred in December 1959, with the importation of 1.0.1 Danish birds to the San Diego Zoo. The first successful North American zoo hatch occurred at the Calgary Zoo in July 1970. While various subspecies (including *Bubo bubo bubo*, *B. b. turcomanus*, *B. b. hispanus*) have been maintained historically, AZA's Raptor TAG manages the species only at the species level.

Ambassador Animal Guidelines for Eurasian and Verreaux's Eagle Owls was published in spring 2020. Available at: <https://www.aza.org/ambassador-animal-guidelines?locale=en>

Diet:

Eurasian eagle owls hunt a variety of prey from the air or an open perch. They have a diet that varies throughout their range and includes both mammalian and avian prey items. Invertebrates, reptiles, and fish are also eaten opportunistically, though mammals make up most of their diet. The diet offered to owls in zoological facilities should be nutritionally complete while also replicating the wild diet as closely as possible. Typical whole prey diet items can include mouse, rat, rabbit, chick, quail, fish, and commercially made bird of prey diet. When feeding previously frozen food items, it is recommended to include a vitamin supplement, such as Vitahawk, to compensate for potential loss of vitamins during the freeze/thaw process.

Housing:

The minimum requirements for housing two Eurasian eagle owls together are 19.7ft x 13.1ft x 12.1ft (6m x 3.9m x 3.7m). An acceptable enclosure size for a pair is three to four times the wingspan of a bird in all dimensions. Owls that are utilized in ambassador programs may be housed individually in mews, which are smaller than exhibits for breeding birds. Mew size for ambassador birds is recommended to be a minimum of 2x the wingspan (length) by 2x the wingspan (width). It is recommended that ambassador eagle owls are housed in enclosures that are no less than 8ft (2.4m) in height. Approximate minimum housing dimensions for a single ambassador eagle owl would be 10ft x 10ft x 8ft (3m x 3m x 2.4m).

Eagle owls should be housed on varied natural substrate, such as grass, dirt, or pea gravel, with mixed perching of varied location, stability (swinging perches, some with give/bounce, or fully stable), texture (ex. natural bark, Monsanto or Astroturf covered, rope-wrapped), and diameter - anywhere from 2-5 in (5-13cm). To maximize foot health, perches should be regularly maintained and changed out when showing signs of wear. Stumps, platforms, and grass locations are other forms of perching used by eagle owls. Enclosures should contain a bath pan to allow the individual to submerge without bumping its wings on the sides of the pan. Misters can be added to enclosures, in warm climates.

Ideal temperature range for Eurasian eagle owls is 32–85°F (0–29.4°C). In temperatures below freezing, it is recommended to provide supplemental heat, most typically overhead radiant heaters or heat lamps. Fans, misters, and ice blocks are all recommended in temperatures above 85°F (29.4°C) or when the bird is open mouth breathing/panting or drooping wings. Extra care should be considered for elderly birds who may have a lower cold or heat tolerance. Owls should also not be exposed to direct sunlight for extended periods.

Reproduction:

Eurasian eagle owls begin breeding around one to three years of age and will typically breed once a year.

Eagle owls have been known to nest on a sheltered cliff ledge or in crevices, in a cave entrance, on the ground on a steep slope or on flatter ground in taiga, or in abandoned nests built by other birds. These owls tend to be monogamous, using the same nesting site year after year. At zoological facilities, owls have nested on platforms and on the ground.

The female lays two to four eggs, with a three-day laying interval. The eggs are incubated by the female for 34-36 days. While the female is incubating the eggs, the male will bring her food.

The chicks hatch with white down with dark beaks and are brooded by the female for ~15 days. After three weeks, the young start to feed themselves at the nest, they move outside the nest at five weeks of age. Chicks can usually fly at seven weeks of age and are independent at 20-24 weeks. Juveniles usually disperse at around six months of age.

Social Structure:

Wild Eurasian eagle owls are solitary birds, except when paired for mating. They are generally monogamous with pairs typically staying together for life.

In human care, pairs can live together throughout the year or single owls can be housed individually. If they produce offspring, they will need to move out before the next breeding season.



Photo credit Rosamond Gifford Zoo

References:

AZA Ambassador Animal Scientific Advisory Group, (Raptor Taxon Advisory Group). (2019). Eurasian Eagle Owl and Verreaux's Eagle Owl Care Guidelines. Silver Spring, MD: Association of Zoos and Aquariums.

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RÜPPELL'S VULTURE

Gyps rueppelli

AZA Program Status: Yellow SSP

Program Leader: Sprina Liu

IUCN Status: Critically Endangered

CITES Status: Appendix II



Photo credit Disney's Animal Kingdom

Demographics and Genetics:

Current Population Size (N)	54
Number of Holding Institutions	14
Males	28
Females	26
Unknown	0
Target Population Size	70
Recent Population Growth Rate	1.004
Projected Population Growth Rate	1.032
Current Founders	14
Gene Diversity (GD%) Potential	95.49
Population Mean Kinship (MK)	0.1213
Mean Inbreeding (F)	0.0278
Gene Diversity at 100 Years From Present (%)	78.3

Distribution:

This vulture is found in sub-Saharan Africa. Sixteen of 23 vulture species are of conservation significance and need our help. Ruppell's vultures are part of the [African Vulture SAFE program](#)

Diet:

They are carnivorous and in human care, their diet consists of rats, rabbits, guinea pigs, feline diet, chunk meat, etc.

Housing:

They can be housed in a variety of enclosure types (open topped and netted) and has the potential to cohabitate in mixed species settings. These birds are hearty and can be housed outdoors in temperatures ranging from mid-upper 20°F to 100°F (-6.6°C to 37.7°C). Their optimal habitat size is dependent on the size of the flock. Minimally, 150²ft (45²m) recommended per pair. The maximum group size is limited by size of habitat and not social needs/restrictions.

This species is compatible with a variety of other birds and some hoofstock species. Individuals may differ in compatibility. Have been housed with:

- mammals: wildebeest, impala, Thomson's gazelle, greater and lesser kudu, okapi, waterbuck, steenbok, red river hogs, nyala, pygmy hippo, zebra, bat-eared foxes, scimitar-horned oryx, dama gazelle, giraffe, eland

- birds: ostrich, guineas, pink-backed pelicans, black/gray crowned cranes, saddlebill, lappet-faced vulture, sandhill cranes, cinereous vulture, hooded vulture, orinoco goose, ibis, hammerkop, yellow-billed stork, cape vulture, African spoonbill.

Reproduction:

They are sexually mature at five to six years of age. There are no actual courtship displays to note. Pairs will actively nest build and spend time together around the nest. They will build nests on rock ledges or elevated platforms if provided. The pair will re-use/add to nest sites from previous seasons.

One white egg is incubated for approximately 55 days. Both adults share incubation and rearing duties. Chicks are altricial and develop relatively slowly. Fledging occurs around 150 days of age.

Social Structure:

Wild birds are highly gregarious and can be found in large flocks.

Social Structure in Human care:

Under human care, Rüppell's should be housed socially. Breeding groups are recommended to hold at least six individuals.

Management Challenges:

Birds should be managed via wing clipping (not pinioning) which can be challenging for facilities with open enclosures.



Photo credit Smithsonian's National Zoo

References:

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SPECTACLED OWL

Pulsatrix perspicillata

AZA Program Status: Yellow SSP

Program Leader: Steve Sarro

Vice-Coordinator: Ashley Graham

IUCN Status: Least Concern

CITES Status: Appendix II



Photo credit Steve Wilson, Flickr

Demographics and Genetics:

Current Population Size (N)	65
Number of Holding Institutions	27
Males	33
Females	26
Unknown	4
Target Population Size	85
Historic Population Growth Rate	1.064
Projected Population Growth Rate	1.043
Current Founders	14
Gene Diversity (GD%) Potential	94.66
Population Mean Kinship (MK)	0.0821
Mean Inbreeding (F)	0.0216
Gene Diversity at 100 Years From Present (%)	75

The spectacled owl is a Neotropical species that makes a stunning addition to any zoogeographic experience. While not winter hardy, especially in northern zoos, they do well in southern zoos outdoors and indoor habitats up north. Their plumage changes from the “white owl” juvenile appearance to the typical dark brown and buff-colored adult. This species frequents coffee plantations throughout the Americas and has adapted well to living close to people. Spectacled owls are often used in education programs as ambassador animals to highlight the rainforest inhabitants.

Diet:

This species of owl will prey upon small mammals, birds, bats, reptiles and even crabs in its native areas. In human care, spectacled owls are generally fed a prepared commercial diet and/or whole prey items such as mice, rats, chicks, and quail.

Housing:

This amazing species is a good option for replacing eagle owl, barred owl, or barn owl exhibits if zoogeography is not a consideration. Their minimum habitat size 12ft x 12ft x 12ft (4m x 4m x 4m). As a tropical species, the spectacled owl is best suited to outdoor exhibits in the southern states although they can be moved indoors in colder regions. Generally, a heated shelter box is warranted if freezing temperatures occur. This species is prone to frostbite on their toes.

Reproduction:

Juvenile owls are referred to as “white owls” and were once thought to be a distinct species. The juveniles molt into adult plumage between one to two years old and can breed thereafter.

Generally, a male and female spectacled owl will pair easily and, while there is often calling between the pair, not much is known about the courtship. This species will use cavities as well as open nests.

One to two white eggs are laid and incubated for 36 days. Both parents are responsible for parental care. Chick hatches fully feathered with down and can fly at about three months of age.

Social Structure:

Pairs can be held together (with offspring) or a group of females. This may also hold true for multiple male groups but this may not have been tested yet. Spectacled owls have been housed successfully in exhibits with wild turkeys. It is possible that other large Galliformes or Ciconiiformes might work, but have been untested.



Photo credit Phoenix Zoo

References:

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PYGMY FALCON

Polihierax semitorquatus

AZA Program Status: Red SSP

Program Leader: Nicole LaGreco

IUCN Status: Least Concern

CITES Status: Appendix II



Photo credit Los Angeles Zoo

Demographics and Genetics:

Current Population Size (N)	40
Number of Holding Institutions	14
Males	7
Females	6
Unknown	1
Target Population Size	70
Historic Population Growth Rate	1.111
Projected Population Growth Rate	1.030
Current Founders	15
Gene Diversity (GD %) Potential	92.64
Population Mean Kinship (MK)	0.1065
Mean Inbreeding (F)	0.0929
Gene Diversity at 100 Years From Present (%)	56

Distribution:

Pygmy falcons are a monotypic species, though historically have been geographically divided into two subspecies: *Polihierax semitorquatus semitorquatus* and *Polihierax s. castanonotus*. The former is found in western South Africa and the latter in northeast Africa (Maclean, 1970) and currently considered separate races. Pygmy falcons are not known to migrate and their range is determined by the availability of weaver nests to roost in.

Diet:

Their diet consists mainly of small lizards such as agamids and skinks and large insects such as beetles, grasshoppers, and termites, but also some rodents, birds and other arthropods. They pounce on prey from a perch and take most items on the ground, rarely after a short aerial chase.

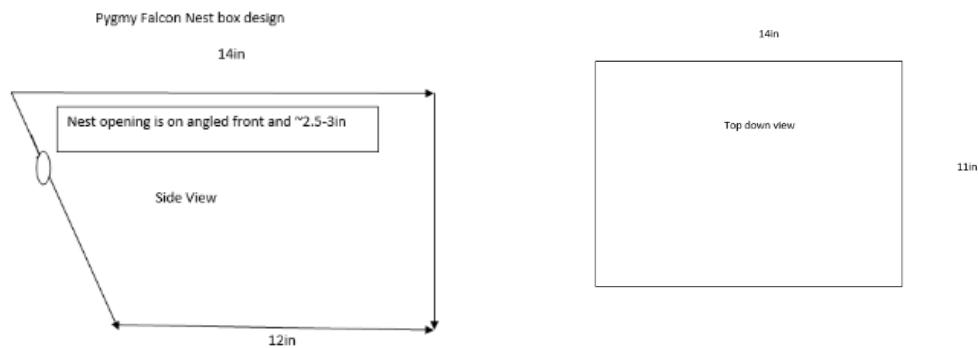
Housing:

They should be housed in pairs with access to a nest box for roosting and nesting. These falcons are not cold tolerant and should not be housed outdoors in temperatures below 60° F (15°C) without access to a heated nest box. In climates where

temperatures are regularly below 60°F (15°C), the birds should be housed indoors. Their optimal habitat size should be 100ft² (33m²) minimum. They are best housed in pairs, and young offspring can remain with the parents for ~six months, at which point aggression may be observed based on the sex of the offspring. Mixed-species housing is suggested only with birds larger than they are; additional females can be housed adjacently to promote breeding.

Reproduction:

Both males and females are sexually mature at one year of age. Courtship displays include calling, head-bobbing and bowing displays, with tail pumping. Female solicits by crouching. Pygmy falcons breed and roost in weaver nests. In the South, the nests of sociable weaver's (*Philetairus socius*) are used and in east Africa, the nests of white-headed buffalo weaver's (*Dinemellia dinemelli*) are preferred (Brown and Amadon, 1989). In managed care, a nest box can be used instead of a weaver nest (see diagrams below).



Usually three (two to four) eggs are laid at two-day intervals. Double-clutching is possible. Eggs are spherical in shape and matte white, 1.1-1.8in x 0.8-0.9in (28-30mm x 22-23mm).

Eggs incubate for 27-31 days. Both sexes incubate, but the female does the majority and is fed by the male. Newly hatched chicks are bright pink and covered with white down, quills appear within a week, fully feathered by three weeks (except for down on head and short tail). They are fully independent at six to eight weeks. Adult plumage occurs in one year or less. The young fledge from 27 to 40 days but return at intervals to the nest.

Social Structure:

They are found in pairs in the wild, but can be polyandrous during breeding and rearing, with young helpers from previous broods. Under human care, they are best housed in pairs. Young offspring can remain with the parents for ~six months at which point aggression may be observed depending on the sex of the offspring.

Management Challenges:

They are sensitive and prone to deserting nests if disturbed. There are hatching problems in managed care. They are strictly territorial, especially around nests. Finally, hand-reared falcons can become more imprinted.

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Photo credit Joel Sartore/ National Geographic Photo Ark (Houston Zoo)

TAG MONITORED

SNOWY OWL

Bubo scandiacus

AZA Program Status: TAG Monitored

Program Leader: Cody Hickman

IUCN Status: Vulnerable

CITES Status: Appendix II

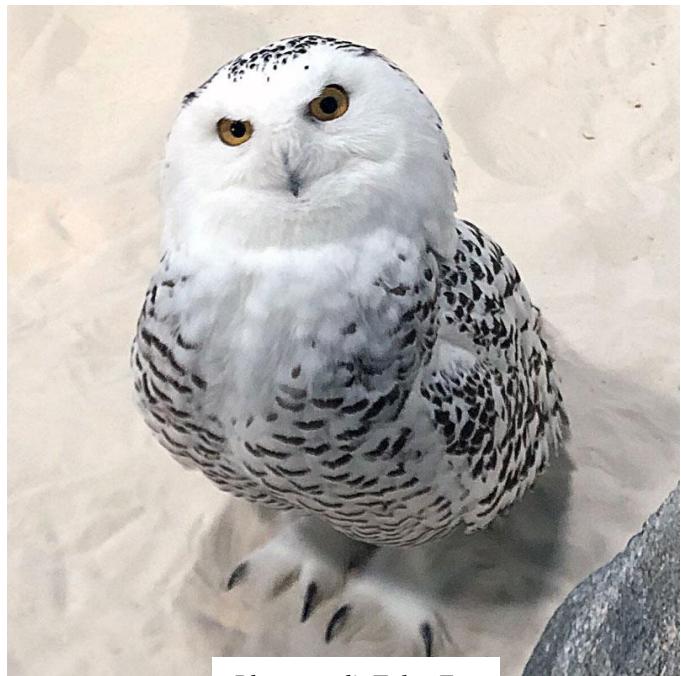


Photo credit Tulsa Zoo

Demographics and Genetics:

Current Population Size (N)	48
Number of Holding Institutions	26
Males	26
Females	22
Unknown	0
Target Population Size	75
Historic Population Growth Rate	0.92
Projected Population Growth Rate	1.001
Current Founders	44
Gene Diversity (GD%) Potential	97.88
Population Mean Kinship (MK)	0.0540
Mean Inbreeding (F)	0
Gene Diversity at 100 Years From Present (%)	57.4

Distribution:

They are found in the Arctic region of North America and Palearctic

Diet:

They primarily feed on lemmings and voles almost exclusively at certain times of the year, but also consume hares, fish, waterfowl, and ptarmigans. In human care, they primarily are fed rats, rabbits, and mice.

Housing:

Year-round outdoor holding is possible in regions with cooler summers (~80°F/26°C). During summer, birds should be given a shallow pool, a shady area, and possibly access to a fan. During long stretches of heat, individuals should be moved to a cooler location. Birds can be kept outside during winter with little to no concern.

Their optimal habitat size is 12ft x 20ft x 12ft (4m x 7m x 4m). The maximum group size is one pair, plus young for up to six or eight months. They are not compatible in mixed species exhibits.

Reproduction:

Sexually maturity is reached in three to five years for both males and females.

The male courtship consists of hooting vocalizations, aerial displays, and ground displays where prey items are offered to the female.

Generally, the nest is a scrape in the ground, usually in a slightly elevated area. The nest can be lined with moss and encompassed with sticks or prey items.

5-12 white eggs per clutch are incubated for 32 days.

The dam will incubate the eggs and brood the young. Chicks hatch out with gray down and flightless, remaining flightless for three to four weeks. Chicks will fledge and be self-sufficient by September before the winter season. The sire will provide food to the hen to feed the chicks and continue feeding chicks after fledging. Chicks fledge at around 14-26 days but stay close to the nest for several weeks being fed by the sire.

Social Structure:

They are solitary in the wild with possible overlapping territories, pairing off during breed season.

In human care, individuals can be housed solitary or in pairs.

Management Challenges:

The species has a limited breeding season based on the weather. A pair will usually lay one clutch around June. They will stop breeding behavior by July due to the warm temperatures. The species also is susceptible to blood-borne parasites carried by mosquitoes. Finally, due to the warm temperatures when a female is nesting, the female is prone to flies causing wounds that can become necrotic.



Photo credit Elmwood Park Zoo

References:

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<https://doi.org/10.2173/bow.snowl1.01>

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Hickman, J. C. and Lawless, A. 2020. Snowy owl (*Bubo scandiacus*). AZA Species Survival Plan® Red Program Population Analysis & Breeding and Transfer Plan. AZA Population Management Center: Chicago, IL.

CAPE VULTURE

Gyps coprotheres

AZA Program Status: TAG Monitored

Program Leader: Chandra David

IUCN Status: Endangered

CITES Status: Appendix II

AZA Population: 35 (17.18)

AZA Institutions: 10



© Maria Diekmann

Photo credit Rare & Endangered Species Trust

The Cape vulture, also known as the Cape griffon, is a charismatic species that well represents the plight of vultures worldwide. In 2006-2007, the total population was estimated to be 8,000-10,000 individuals, with 80% of the birds living in 18 core colonies. The overall population decreased by about 10% from 1992-1999 and declined by 60-70% in Eastern South Africa from 1992-2007. This robust raptor ranges throughout the southern portion of Africa in a variety of habitats including cliffs, grasslands, forests, shrubland, savanna, deserts, and pasturelands.

This species does well in zoological settings and is best suited to warmer climates. The minimal enclosure size should be 50ft x 35ft x 14ft (15m x 10.6m x 4.2m) and larger when housing larger groups. This species is exceptionally dynamic when housed in a large flock and creates a lot of interest to the public during feeding sessions with displays involving hopping, outstretched necks, and holding a foot up to another competing bird. Capes are highly compatible in mixed species exhibits with other vulture species, crowned cranes, guineafowl, and some hoofstock.

At this time, it is difficult to get this species widespread into AZA institutions as the managed population is at risk of low genetic diversity due to small population size and low reproductive rates (both management related and species-specific). Cape vultures are persecuted in their native habitats and deaths often occur through intentional and unintentional poisoning. Threats include targeting by poachers, parts used in traditional medicine, power line collisions, pylon electrocutions, and loss or encroachment of habitat. This species well represents the struggle of most vulture species, making it a great representative of its wild counterparts and close relatives.



Photo credit Olis Garber, St. Augustine Alligator Farm Zoological Park

Additional institutional interest and breeding desire is necessary for this species to move forward into a managed status. Imports from other regions may also be a possibility. Contact the program leader for more information.

Sixteen of 23 vulture species are of conservation significance and need our help. Cape vultures are part of the [African Vulture SAFE program](#).

HARPY EAGLE

Harpia harpyja

AZA Program Status: TAG Monitored

Program Leader: Beau Parks

IUCN Status: Vulnerable

CITES Status: Appendix I

AZA Population: 15 (7.7.1)

AZA Institutions: 6 AZA (+1 AZA certified & 2 non-AZA)



Photo credit Chepe Nicoli, Shutterstock

Weighing up to twenty pounds, with an intimidating dual crest and massive feet and talons, the harpy eagle is among the largest, most impressive raptors in the world. They are a forest species with a range extending southern Mexico through South America where sufficient suitable habitat still exists. They are threatened by habitat loss and direct persecution throughout their range and have been extirpated from many places where they historically occurred. This dynamic species preys primarily on arboreal mammals, especially monkeys and sloths, but will take terrestrial mammals, birds and reptiles. In one observational study, sloths constituted over half of the prey captured. Under human care, a whole animal diet is essential and may include a variety of mammalian and avian prey items.

Within zoos, they are crowd-pleasers on exhibit or as ambassadors. Successful breeding enclosures have been ~5,000ft² (1524m²) (San Diego Zoo), ~2,300ft² (701m²) (Zoo Miami) and 414ft² (126m²) (Los Angeles Zoo). Unfortunately, nearly the entire North American population is descended from a single pair. Several birds, including all remaining potential founders, are apparently mal-imprinted and not candidates for breeding. Harpy eagles are long-lived and the one breeding pair in the country is relatively young and productive, so there should be a handful of birds available for display in the coming years. Without importation, this population will continue to decline. Contact program leader regarding importation potential of available, unrelated captive-bred eagles from South America and Europe.



Photo credit San Diego Zoo Wildlife Alliance

HOODED VULTURE

Necrosyrtes monachus

AZA Program Status: TAG Monitored

Program Leader: Megan Victoriano

IUCN Status: Critically Endangered

CITES Status: Appendix II

AZA Population: 45 (27.18.0)

AZA Institutions: 10

Hooded vultures are one of the smallest African Vulture species, identifiable by their “monk-like” hood of short, downy feathers that begins at the crown of their head and extends down the back of their necks. Contending with the threats of hunting for traditional medicines and food, poisoning, collisions with vehicles and electricity infrastructure, loss of habitat, and increased competition for food. These scavengers are opportunistic in nature, seeking out carrion and the occasional insects. The current wild population of *N. monachus* is estimated to be no more than 197,000 individuals and declining. Throughout its range, this species is experiencing an 83% rate of decline, on average, over three generations. Prior to 2011, this species was classified as Least Concern, and then in 2015 it was up listed to a Critical status due to rapid population decline.

This species is manageable in either open-air habitats or covered aviary, although covered options are preferred. They are not a cold-hardy species, requiring temperatures above 40°F (4°C) year-round and heated shelters in locations where temperatures drop below that threshold. An ideal habitat would include fallen branches and trees for perching, elevated nesting platforms (dependent on flight restrictions), and a shallow pool with sloped sides to accommodate bathing. Their preferred habitat is a minimum size of 400ft² (122m²) for outdoor habitats and 100ft² (30m²) for indoor holding when housing a pair. In open-air habitats, flighted birds require diligent wing clipping to avoid escape.

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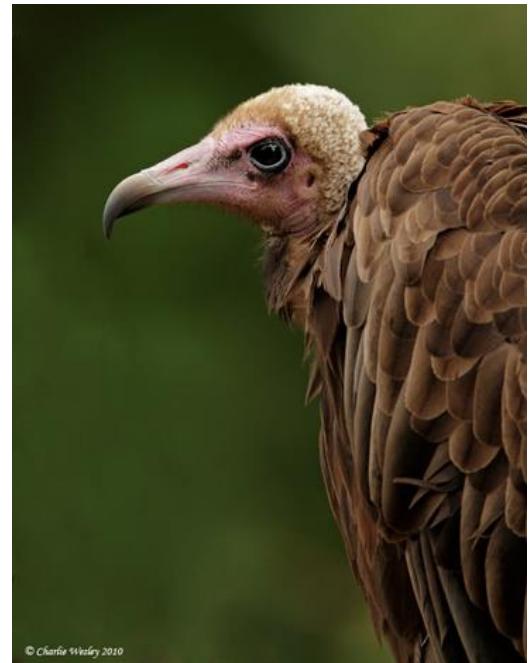
Photo credit Charles Wesley, St. Augustine Alligator Farm



Photo credit Keith Bildstein, Hawk Mt. Sanctuary

Hooded vultures provide many opportunities for education, while also supporting a diverse and impactful guest experience in zoos. This species thrives in mixed-species habitats, allowing for a complex view of African ecosystems. Historically, they have been housed with various species of African vultures, waterfowl, storks, cranes, flamingo, and small hoofstock. Breeding pairs display nest building and defense, they share duties of incubation and rearing of chicks, all allow for a greater understanding of their strong parenting and partnership skills. As the AZA population grows, more facilities are needed to house this magnificent species. Opportunities are available for breeding, as well as holding non-breeding groups.

Contact the program leader for more information.



LAPPET-FACED VULTURE

Torgos tracheliotus

AZA Program Status: TAG Monitored

Program Leader: Debbie Milligan

IUCN Status: Endangered

CITES Status: Appendix II

AZA Population: 30 (16.14.0)

AZA Institutions: 11



Photo credit Zoo Atlanta

Large and highly charismatic, lappets are easily housed in mixed-habitat yards of at least one acre. House as a single pair (and offspring for one year) or a same-sex group. Successfully mixes with multiple species, including but not limited to: marabou, crowned crane sp., secretary bird, Abyssinian ground hornbill, helmeted guineafowl, and waterfowl, large (ex. greater kudu/bongo), medium (ex. nyala), and small (ex. Speke's gazelle) hoofstock. Habitat design includes open yards (managing for flight restriction) or in a large, covered aviary with plenty of perching. If possible, provide more than one nest platform option initially until the pair selects where they want to nest.

Wild lappet populations are declining at a rapid rate, calculated to be an 80% loss over the next three generations. The current population under human care is not faring much better. Successful breeding has been the biggest challenge. The captive population is very small and most of the offspring produced have come from two pairs. The first successful hatch from an F1 bird was produced in 2020. Seven chicks have been produced between 2020-2021 breeding seasons: from four different pairs. This population is growing, as is demand for this species, as more birds are successfully produced. Unrelated birds will be necessary in the future for pairing. EAZA imports may be possible. Contact the program leader for more information.

Sixteen of 23 vulture species are of conservation significance and need our help. Lappet-faced vultures are part of the [African Vulture SAFE program](#)



Photo credit Henk Bogaard, Shutterstock

SECRETARY BIRD

Sagittarius serpentarius

AZA Program Status: TAG Monitored

Program Leader: VACANT

IUCN Status: Endangered

CITES Status: Appendix II

AZA Population: 25 (12.12.1)

AZA Institutions: 10



Photo credit Karel Bartik, Shutterstock

Secretary birds are truly one of the most unique raptors within this TAG. Once a guest sets their eyes on one, they begin to wonder what type of bird it is. When they learn this attractive bird is a raptor who specializes in hunting snakes, they are hooked. Although the species is rare in zoos, we are hoping to expand this species population to other facilities to help share the story of raptors but mostly to share this unique raptor's story about life on the savannas of Africa.

This carnivore prefers small mammals, reptiles, small birds, and insects. They catch their prey by chasing it down, stomping on it, and swallowing it whole. Best housed in pairs and young can remain for approximately six months at which point aggression may be observed based on the sex of the offspring. Compatible in mixed-species exhibits and have been successfully housed with ibis, yellow-billed storks, European white storks, kori bustards, guineafowl, and waterfowl.

Their optimal habitat size is 60ft x 60ft x 15ft (18m x 18m x 4.5m) for a breeding pair. Singlets can be held in a smaller habitat, but minimum of 30ft x 30ft x 15ft (9m x 9m x 4.5m). The birds tend to escape if there is not proper height in the containment area or a covered roof. Pairs should have access to trees or wooden platforms for nest building.

Contact TAG Chair if interested in acquiring the spectacular secretary bird.



Photo credit San Diego Zoo Wildlife Alliance

STELLER'S SEA-EAGLE

Haliaeetus pelagicus

AZA Program Status: TAG Monitored

Program Leader: Beau Parks

IUCN Status: Vulnerable

CITES Status: Appendix II

AZA Population: (30) 17.13

AZA Institutions: 14 AZA and 3 non-AZA institutions

The majestic Steller's sea eagle is one of the largest eagles in the world. Large females may weigh up to 21lbs (9.5kg) with a massive wingspan of over 8ft (2.5m). The massive eagles breed along the shores of the Sea of Okhotsk and the Kamchatka Peninsula in far western Russia, where they feed primarily on fish although seabirds are an important food source for some pairs. They are susceptible to a variety of threats on their breeding grounds including the effects of climate change, fluctuations in their prey base, and habitat conversion, as well as lead poisoning in their wintering grounds where they often scavenge carcasses of animals killed with lead ammunition.

Steller's sea eagles are fantastic exhibit birds, especially in colder climates where they are quite at home outdoors year-round. They have also been used as ambassadors and are especially impressive up close but require experienced handlers. Breeding success among the AZA population has been consistent but limited. Three institutions have produced offspring, two proven pairs are still together, and four or five other pairs have shown encouraging breeding behaviors and may produce within the next year or two. The population is slightly male-heavy, so there are males available for display in the short term although creation of new pairs will depend on future production or importation from Europe where there are birds readily available. Breeding pairs require large aviaries of at least 500 ft² per bird. Facilities that have produced offspring in North America have housed their pairs in aviaries of ~1,000ft² (92m²) (Louisville Zoo), ~2,400ft² (223m²) (Denver Zoo), and ~4,000ft² (372m²) (Cincinnati Zoo).

Contact the program leader if interested in this magnificent eagle.



Photo credit San Diego Zoo Wildlife Alliance



Photo credit Louisville Zoo

VERREAU'S EAGLE OWL

Bubo lacteus

AZA Program Status: TAG Monitored

Program Leader: Justin Eckelberry

IUCN Status: Least Concern

CITES Status: Appendix II

AZA Population: 23 (13.8.2)

AZA Institutions: 12



Photo credit Zoo Atlanta

Verreaux's eagle owl, also known as the milky eagle owl, is a proven and popular species amongst ambassador programs in AZA. Native range covers sub-Saharan Africa with a focus around savanna grasslands. In human care, year-round outdoor housing is common in areas that maintain close to 45-90°F (7-32°C). Colder temperatures can be tolerated if appropriate heat sources, shelter, and wind blocks are provided. Minimum habitat size is 19.7ft x 13.1ft x 12.1ft (6m x 4m x 3m).

Currently, there is only one consistent breeding pair within AZA. Though it is uncertain at what age this species will no longer breed in zoos, it seems that this species will phase itself out without support from other institutions to house breeding pairs instead of single ambassadors. Importation may be necessary to maintain genetic diversity, as most of the owls in the country are related or direct offspring of this single breeding pair. They are attractive to guests because of their size. Ambassador Animal Guidelines for Eurasian and Verreaux's Eagle Owls was published in spring 2020. Available at: <https://www.aza.org/ambassador-animal-guidelines?locale=en>

Contact the program leader for more information.



Photo credit San Diego Zoo Wildlife Alliance

WHITE-BACKED VULTURE

Gyps africanus

AZA Program Status: TAG Monitored

Program Leader: Debbie Milligan

IUCN Status: Critically Endangered

CITES Status: Appendix II

AZA Population: 8 (5.3.0)

AZA Institutions: 3



Photo credit North Carolina Zoo

Found in a variety of habitats, including woodlands, savannas and steppes, white-backed vultures forage exclusively on carrion as part of an avian scavenging guild that includes other vulture species, storks, eagles, kites, corvids and others. More than one pair can be maintained under human care in a single, large habitat. Breeding may be loosely colonial, with stick nests built in the crowns of trees. Both parents incubate the single egg for 56-58 days and care for the chick. Although the chick fledges at 120-130 days, parents continue caring for it into the following year as the juvenile develops foraging skills.



The first white-backed vulture was exhibited in US zoos in 1924; however, most of the birds were brought over from the mid 1970's to current. Most of these birds have been held in breeding situations, but with little success. The first US breeding of the white-backed vulture occurred in 1994 at Cleveland Metroparks Zoo. There have been seven hatches, five surviving to adulthood, and only three still living. Currently, only three zoos have successfully hatched this CR species.

At present, the best management strategy for the population is to increase reproduction and breed the three potential founders. Without an increase in reproduction, this population is projected to go extinct within 25 years. Studbook data from other Old World vultures (Ruppell's griffon and lappet-faced) suggest it is likely that white-backed vultures become reproductive between the ages of five-seven years and have a long reproductive span.

Contact the program leader if interested in this species as offspring and importation opportunities may be available.

Sixteen of 23 vulture species are of conservation significance and need our help. White-backed vultures are part of the [African Vulture SAFE program](#).

Photo credit Dallas Zoo

TABLE 10. RAPTOR TAG PROGRAM LEADERS

SPECIES	SCOPE OF MANAGEMENT PROGRAM	CHAIR, MANAGER OR CHAMPION	INSTITUTION	PHONE	E-MAIL
King Vulture <i>Sarcoramphus papa</i>	Green SSP Regional Studbook	Shelly Collinsworth	Fort Worth Zoo	817-759-7212	scollinsworth@fortworthzoo.org
Andean Condor <i>Vultur gryphus</i>	Yellow SSP	John Azua	Denver zoo	720-337-1514	jazua@denverzoo.org
Andean Condor <i>Vultur gryphus</i>	North American Regional Studbook	Ron Webb	San Diego Zoo Safari Park	760-747-8702	rwebb@sdzwa.org
Burrowing Owl <i>Athene cunicularia</i> + <i>A. c. floridana</i> + <i>A. c. hypugaea</i>	Yellow SSP Regional Studbook	Yvonne Strode	Peoria Zoo	309-686-3365 ext. 302	ystrode@peoriazoo.org
California Condor <i>Gymnogyps californianus</i>	Yellow SSP	Rachel Ritchason	Santa Barbara Zoo	805-962-5339 ext. 139	rritchason@sbzoo.org
California Condor <i>Gymnogyps californianus</i>	International Studbook	Rachel Ritchason	Santa Barbara Zoo	805-962-5339 ext. 139	rritchason@sbzoo.org
Cinereous Vulture <i>Aegypius monachus</i>	Yellow SSP Regional Studbook	Mary Jo Willis	Denver Zoo	720-496-9010	mjwillis@denverzoo.org
Eurasian Eagle Owl <i>Bubo bubo</i> + <i>B. b. bubo</i> only	Yellow SSP Regional Studbook	Ashley Graham	Smithsonian Zoological Park	202-633-3210	grahamas@si.edu
Pygmy Falcon <i>Polihierax semitorquatus</i>	Red SSP Regional Studbook	Nicole LaGreco	San Diego Zoo	619-744-3355	nlagreco@sdzwa.org
Rüppell's Griffon Vulture <i>Gyps rueppelli</i> + <i>G. r. rueppelli</i>	Yellow SSP Regional Studbook	Sprina Liu	Dallas Zoo	469 554 7240	springa.liu@dallaszoo.com
Spectacled Owl <i>Pulsatrix perspicillata</i> + <i>P. p. perspicillata</i>	Yellow SSP Regional Studbook	Steve Sarro	Smithsonian National Zoological Park	202-633-3242	sarros@si.edu
Snowy Owl <i>Nyctea scandiaca</i>	Monitored Species Regional Studbook	Cody Hickman	Chicago Zoological Society – Brookfield Zoo	709-688-8000	Cody.hickman@czs.org

SPECIES	SCOPE OF MANAGEMENT PROGRAM	CHAIR, MANAGER OR CHAMPION	INSTITUTION	PHONE	E-MAIL
Cape Griffon Vulture <i>Gyps capensis</i>	Monitored Species Regional Studbook	Chandra David	Los Angeles Zoo	323-644-4200	Chandra.david@lacity.org
Harpy Eagle <i>Harpia harpyja</i>	Monitored Species International Studbook	Beau Parks	San Diego Zoo	619-231-1515 ext. 4424	bparks@sdzwa.org
Hooded Vulture <i>Necrosyrtes monachus</i>	Monitored Species Regional Studbook	Megan Victorino	St. Augustine Alligator Farm	904-824-3337 ext. 116	Mvictoriano@alligatorfarm.com
Lappet-faced Vulture <i>Torgos tracheliotus</i>	Monitored Species Regional Studbook	Debbie Milligan	Dallas Zoo	214-670-6826	Debbie.milligan@dalaszoo.com
Secretary Bird <i>Sagittarius serpentarius</i>	Monitored species Regional Studbook	VACANT			
Steller's Sea-eagle <i>Haliaeetus pelagicus + H. p. pelagicus</i>	Monitored Species Regional Studbook	Beau Parks	San Diego Zoo	619-231-1515 ext. 4424	bparks@sdzwa.org
Verreaux's Eagle Owl <i>Bubo lacteus</i>	Monitored Species Regional Studbook	Justin Eckelberry	Zoo Atlanta	404-624-5879	jeckelberry@zoatlanta.org
White-backed Vulture <i>Gyps africanus</i>	Monitored Species Regional Studbook	Debbie Milligan	Dallas Zoo	214-670-6826	Debbie.milligan@dalaszoo.com



Photo Credit Scott Tidmus, Disney's Animal Kingdom

TABLE 11. AZA RAPTOR TAG TAXON LISTING

This table lists the Common and Scientific names, range and conservation status (sourced from <https://birdsoftheworld.org>) for all species under the purview of the raptor TAG.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
FAMILY CATHARTIDAE (NEW WORLD VULTURES)		
Turkey Vulture <i>Cathartes aura</i>	North, Central and South America.	Least Concern. Widespread and abundant with increasing range.
Lesser Yellow-headed Vulture <i>Cathartes burrovianus</i>	Central America S to C Colombia and NW Venezuela, lowland South America.	Least Concern. Status and distribution are poorly known. Populations appear widespread and common.
Greater Yellow-headed Vulture <i>Cathartes melambrotus</i>	Amazonia, including S. Venezuela and the Guianas.	Least Concern.
American Black Vulture <i>Coragyps atratus</i>	S USA, N Mexico, Central America and N&E South America.	Least Concern. Widespread and common.
King Vulture <i>Sarcoramphus papa</i>	Tropical forest and savanna regions of Central and South America (Mexico – N Argentina).	Least Concern. CITES III Honduras
California Condor <i>Gymnogyps californianus</i>	Historic range = Mountains of Pacific coast of North America.	CRITICALLY ENDANGERED. CITES I and II. One of the most CRITICALLY ENDANGERED bird species. Extinct in the wild from 1982-1992. Current Reintroduction program from captive population back to former range,
Andean Condor <i>Vultur gryphus</i>	Andes from Venezuela to Tierra del Fuego. Sea level in Chile and Peru.	Least Concern. CITES I. Currently threatened over most of range. Reintroduction effort using captive bred birds underway in Columbia and Venezuela.
FAMILY PANDIONIDAE (OSPREY)		
Osprey <i>Pandion haliaetus</i> 4 subspecies	Scandinavia E to Japan, S to Mediterranean, Red Sea & Cape Verde Is.; winters S. Africa, India, W. Indonesia & Philippines. Labrador W to Alaska and S. to Arizona and Florida. Winters S to Peru and S Brazil. Caribbean, including Bahamas, Cuba and Belize. Australia to New Caledonia, N through New Guinea, Java and Sulawesi.	Least Concern. CITES II. Frequent to abundant throughout most of range.
FAMILY ACCIPITRIDAE (HAWKS & EAGLES)		
Pearl Kite <i>Gampsonyx swainsonii</i> 3 subspecies	Nicaragua, N Colombia through Venezuela and Trinidad to Guyana and Suriname, and S to R Amazon. Brazil S of R Amazon to E Peru, E Bolivia, Paraguay and N Argentina. Coastal W Colombia, Ecuador and N Peru.	Least Concern. CITES II. Locally distributed and not generally common, but probably benefits from forest destruction, e.g. numerous in partly deforested areas of S Córdoba (NW Columbia).
Black-winged Kite <i>Elanus caeruleus</i> 4 subspecies	SW Iberian Peninsula, most of Africa and SW Arabia. Pakistan E to S & E China, Indochina and Malay Peninsula. Sumatra, Java, Borneo,	Least Concern. CITES II. One of the commonest birds of prey throughout its wide range.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
	Philippines, Sulawesi, Kalao and Lesser Sundas. New Guinea.	
Black-shouldered Kite <i>Elanus axillaris</i>	Australia.	Least Concern. CITES II. Common and widespread; has increased in range and numbers in cleared and farmed areas of S Australia in response to creation of habitat and introduction of suitable prey.
White-tailed Kite <i>Elanus leucurus</i> 2 subspecies	W & S USA (from Oregon to C Florida, occasionally to South Carolina) and N Mexico; also most of Central America (race uncertain). Panama, S through Amazonia to C Argentina (Mendoza and Buenos Aires) and C Chile (Valdivia).	Least Concern. CITES II. Seems to be increasing over much of range, especially from S Mexico to Panama, with Nicaraguan birds apparently of California origin.
Letter-winged Kite <i>Elanus scriptus</i>	Australia, mainly in the interior.	NEAR THREATENED. CITES II. Population sensitive to extreme fluctuations in size.
Scissor-tailed Kite <i>Chelictinia riocourii</i>	Senegambia E to Ethiopia and Somalia, and S to NE Uganda and NE Kenya, in Kedong Valley.	Least Concern. CITES II. Little studied; status difficult to assess due to nomadic habits.
Madagascar Serpent-eagle <i>Eutriorchis astur</i>	Madagascar, originally along all moist eastern regions, but now confined to NE.	ENDANGERED. CITES II.
African Cuckoo-hawk <i>Aviceda cuculoides</i> 3 subspecies	Senegal E to SW Ethiopia, S to Nigeria and N Zaire. Sierra Leone E to E Uganda & S to N Angola. Kenya S to N Namibia and S. Africa.	Least Concern. CITES II.
Madagascar Cuckoo-hawk <i>Aviceda madagascariensis</i>	Madagascar.	Least Concern. CITES II.
Jerdon's Baza <i>Aviceda jerdoni</i> 5 subspecies	SW India & Sri Lanka. NE India, Burma, S China, Thailand, parts of Indochina to N Malay Peninsula. Borneo. Philippines. Sulawesi, Banggai Is & Sula Is.	Least Concern. CITES II. Uncommon to rare throughout the range.
Pacific Baza <i>Aviceda subcristata</i> 13 subspecies	Islands off Sulawesi, Lesser Sundas, N, C & S Moluccas, Waigeo I, Biak I, E, W New Guinea, Aru Is, Admiralty Is, Bismarck Archipelago, Solomon Is, N & NE Australia.	Least Concern. CITES II.
Black Baza <i>Aviceda leuphotes</i> 4 subspecies	S & C China, NE India, Nepal, SW India, S Burma, W Thailand, South Andaman I.	Least Concern. CITES II. Uncommon in range.
Gray-headed Kite <i>Leptodon cayanensis</i> 2 subspecies	Mexico, S to W Ecuador, Amazonia, Guianas, Trinidad, C Brazil, to E Bolivia, N Argentina, Paraguay.	Least Concern. CITES II. Rare to uncommon in range but not considered threatened.
White-collared Kite <i>Leptodon forbesi</i>	NE Brazil.	ENDANGERED. CITES II. Forest habitat has been reduced to <1% of the former range.
Hook-billed Kite	W Mexico, extreme S USA, S through C America, Trinidad, Guianas, Brazil to E Peru, E Bolivia, Paraguay, N Argentina, Grenada.	Least Concern. CITES II. Race <i>mirus</i> of Grenada seriously ENDANGERED with only 15-30 individuals.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
<i>Chondrohierax uncinatus</i> 3 subspecies		
Long-tailed Honey-buzzard <i>Henicopernis longicauda</i>	New Guinea, W Papuan islands, Aru Is.	Least Concern. CITES II
Black Honey-buzzard <i>Henicopernis infuscatus</i>	New Britain.	VULNERABLE. CITES II. Seldom seen. Biology unknown
European Honey-buzzard <i>Pernis apivorus</i>	Europe and W Asia, from Spain, France, SE England and E Scandinavia, W Russia, Caucasus, to R Ob in SW Siberia. Winters in Africa.	Least Concern. CITES II. Stable population
Oriental Honey-buzzard <i>Pernis ptilorhyncus</i> 6 subspecies	S Siberia, E to Amurland & Sakhalin, S to Manchuria, Japan, India, Sri Lanka, Burma, SC China, N, E & W Philippines, Palawan, Malay Peninsula, Sumatra, Borneo, and Java.	Least Concern. CITES II.
Sulawesi Honey-buzzard <i>Pernis celebensis</i>	Sulawesi, Muna I & Banggai Is, Philippines.	Least Concern. CITES II. Status poorly known.
Philippine Honey-buzzard <i>Pernis steerei</i> 2 subspecies	Luzon, in N Philippines, Philippine Is (except Luzon, Palawan and Cebu; one record from Panay).	Least Concern. CITES II.
Square-tailed Kite <i>Lophoictinia isura</i>	Australia.	Least Concern. CITES II. Highly specialized species. Declining due to habitat destruction and egg collecting.
Black-breasted Buzzard <i>Hamirostra melanosternon</i>	Australia, except S and E.	Least Concern CITES II. Declining in the SE portion of range due to habitat destruction, egg collecting and poisoning of carcasses it scavenges on.
Swallow-tailed Kite <i>Elanoides forficatus</i> 2 subspecies	Coastal SE USA to N. Mexico. S Mexico (except Yucatán) S through Central America (excluding El Salvador) to E Bolivia, Paraguay and NE Argentina (Misiones).	Least Concern. CITES II. Relatively common over much of its extensive distribution. US population of conservation concern.
Bat Hawk <i>Macheiramphus alcinus</i> 3 subspecies	S Burma, W Thailand, Malay Peninsula, Sumatra, Borneo and NC Sulawesi. E New Guinea. Senegambia E to Ethiopia and S to South Africa, Madagascar.	Least Concern. CITES II. Status difficult to assess due to nocturnal habits and custom of roosting in densely foliated trees; often considered uncommon to rare.
Snail Kite <i>Rostrhamus sociabilis</i> 3 subspecies	Florida Everglades (SE USA), Cuba and I of Pines. East Mexico and Petén (Guatemala). Honduras and Nicaragua through Panama to South America, occurring W of Andes in Colombia and Ecuador, and E of Andes throughout NE Argentina, except Guyana Massif and Brazilian Plateau.	Least Concern. CITES II. Often abundant in suitable habitat throughout most of range. Pesticides may be a major threat.
Slender-billed Kite <i>Helicolestes hamatus</i>	E Panama, through N & E Colombia, to W, N & SE Venezuela and Suriname; also S through Amazonian Brazil to E Peru and N Bolivia (Beni); s.	Least Concern. CITIES II. Poorly known, and requires further study.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Double-toothed Kite <i>Harpagus bidentatus</i> 2 subspecies	E Mexico (Oaxaca and Veracruz) to W Colombia and W Ecuador. E Colombia and E Ecuador through Amazonia to E Bolivia (Beni) and SE Brazil; Trinidad.	Least Concern. CITES II. No immediate cause for concern, but species will not persist in areas of extensive deforestation.
Rufous-thighed Kite <i>Harpagus diodon</i>	Locally in the Guianas, through E Brazil (Amazonia W to R Branco and R Purús) S to E Bolivia (Santa Cruz), Paraguay and N Argentina (Misiones, Jujuy and Salta).	Least Concern. CITES II. Status very poorly known; generally rare, but perhaps overlooked.
Mississippi Kite <i>Ictinia mississippiensis</i>	Southern tier of USA, from Arizona to Florida. Winters in South America, S to N Argentina and Paraguay.	Least Concern. CITES II. Declined early in 20 th century but currently on the increase.
Plumbeous Kite <i>Ictinia plumbea</i>	NE Mexico (Tamaulipas) S through Central America to South America, W of Andes S to W Ecuador, E of Andes S to Paraguay and N Argentina.	VULNERABLE. CITES II. Range size greatly restricted.
Red Kite <i>Milvus milvus</i> Two subspecies	S Sweden E to Ukraine and S through C Europe to W & C Mediterranean Basin; Wales; Caucasus; formerly Canary Is. Cape Verde Is.	NEAR THREATENED. CITES II. Illegal and indirect poisoning from pesticides is the most serious and persistent threat.
Black Kite <i>Milvus migrans</i> Seven subspecies	NW Africa and Europe E to C Asia (Tien Shan) and S to Pakistan; winters S to Africa S of Sahara. Siberia E to Amurland and Japan S to N India, N Burma and N China and Ryukyu Is; winters S to S Iraq, S India and SE Asia. Taiwan and Hainan (S China). E Pakistan E through India and Sri Lanka to Indochina and Malay Peninsula. Sulawesi and possibly Lesser Sunda Is; E New Guinea and New Britain; N Australia S (in E) to Victoria. Egypt, SW Arabia and coastal E Africa S to Kenya. Africa S of Sahara, Cape Verde Is, Comoro Is, and Madagascar.	Least Concern. CITES II. One of the commonest of all diurnal raptors, and regionally the commonest, e.g. in Japan and probably in Africa.
Whistling Kite <i>Haliastur sphenurus</i>	Australia, New Caledonia, and New Guinea (except NW and central mountains).	Least Concern. CITES II. Common to abundant on coasts, and in tropics where it benefits from human activity; locally declining in S through drainage of wetlands and reduction in food supply.
Brahminy Kite <i>Haliastur indus</i> Four subspecies	Pakistan, India and Sri Lanka through SE Asia to S China. Malay Peninsula, Greater and Lesser Sundas, Sulawesi and related small islands, Philippines and Sula Is (C Moluccas). Moluccas, New Guinea, Bismarck Archipelago and Australia. Solomon Is.	Least Concern. CITES II. Has undergone dramatic decline throughout Java. Also declining in non-coastal parts of Thailand.
White-bellied Sea-eagle <i>Haliaeetus leucogaster</i>	India and Sri Lanka through SE Asia, Philippines, Wallacea, New Guinea and Bismarcks to Australia and Tasmania.	Least Concern. CITES II. Generally common, though some localized declines in S Australia through habitat destruction or disturbance to nest sites; also declining in Thailand.
Sanford's Sea-eagle <i>Haliaeetus sanfordi</i>	Solomon Is, including Bougainville I and Buka I.	VULNERABLE. CITES II. Generally rare to scarce and uncommon; locally

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
		somewhat more common in undisturbed habitats where not persecuted; scarce or absent where subject to hunting (for food and sport) or deforestation.
African Fish-eagle <i>Haliaeetus vocifer</i>	Senegambia E to Ethiopia and S to South Africa.	Least Concern. CITES II. Common on many major rivers and lakes, often at high densities for such a large predator, needing only 300-600 m of shore per pair, or 3-15 ha of fishing area; at lower densities along forested rivers.
Madagascar Fish-eagle <i>Haliaeetus vociferoides</i>	Madagascar; originally in all W coast regions, and possibly on E coast, but now confined to NW coast. May also have extended to Mauritius historically.	CRITICALLY ENDANGERED. CITES II. Only 45-50 breeding pairs at 48 occupied territories estimated in 1985; some pairs with mean inter-nest distance of 1.48 km. More intensive recent surveys (1992) indicate twice the previous known density in the S part of range (21 pairs, as opposed to 10); maximum total may be c. 100 pairs.
Pallas's Fish-eagle <i>Haliaeetus leucoryphus</i>	C & S Asia, from Kazakhstan (possibly extinct) to Mongolia and NE China, S to Pakistan, N India, Burma and SC China (Sichuan).	ENDANGERED. CITES II. Small population, declining as result of habitat loss, degradation, and disturbance of wetlands and breeding sites.
White-tailed Sea-eagle <i>Haliaeetus albicilla</i>	SW Greenland; W Iceland; N & C Eurasia S to Greece and Turkey, S Caspian Sea, L Balkhash and Manchuria; formerly to lower R Yaze; has bred on Attu I (W Aleutian Is). Winters S to N Mediterranean, Persian Gulf, Pakistan, N India and SE China.	Least Concern. CITES I. Previously considered Vulnerable.
Bald Eagle <i>Haliaeetus leucocephalus</i> Two subspecies	Aleutian Is, Alaska, Canada and N USA. S USA S to NW Mexico.	Least Concern. CITES I. Complex situation: N populations not threatened and locally abundant, e.g. in coastal Alaska and British Columbia; but in lower Canada and most of the contiguous 48 USA states, numbers reduced and species often considered either threatened or endangered.
Steller's Sea-eagle <i>Haliaeetus pelagicus</i>	Coastal regions along W Bering Sea, S of Paul's Bay (Koryakland), and Sea of Okhotsk; winters S to Ussuriland, Japan and Korea.	VULNERABLE. CITES II. Small, regionally declining population. Global population estimated currently to number c. 4600–5100 individuals, including c. 1830–1900 breeding pairs, believed equivalent to c. 3600–3800 mature individuals; total has apparently declined from c. 7500 birds in 1990s.
Lesser Fish-eagle <i>Haliaeetus humilis</i> Two subspecies	Kashmir SE through the Himalayas of India and Nepal to Burma, N Indochina and Hainan. Malay Peninsula (from Tenasserim) and Sumatra through Borneo to Sulawesi and Banggai Is; recently recorded on Buru (S Moluccas).	NEAR THREATENED. CITES II. Global population little known; preliminary estimate in range 10,000–50,000 mature individuals, equivalent roughly to 15,000–75,000 individuals in all, but further research needed.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Gray-headed Fish-eagle <i>Haliaeetus ichthyaetus</i>	India, Nepal and Sir Lanka E through Indochina and Malay Peninsula to Greater Sundas, N & E Philippines and Sulawesi.	NEAR THREATENED. CITES II. Widespread, but only locally common, and population possibly moderately small and believed to be suffering rapid decline.
Palm-nut Vulture <i>Gypohierax angolensis</i>	Senegambia E to Kenya coast and S to Angola and NE South Africa.	Least Concern. CITES II.
Bearded Vulture <i>Gypaetus barbatus</i> Two subspecies	NW Africa and SW Europe through Turkey, Egypt, Middle East, Iran and Afghanistan to Mongolia and C & NE China. SW Arabia and very locally in E & S Africa.	NEAR THREATENED. CITES II. Evidence of a moderately rapid population decline over the past three generations.
Egyptian Vulture <i>Neophron percnopterus</i> Three subspecies	S Europ E to C Asia (E Kazakhstan) and NW India, and S through N Africa, Arabia and Sahel zone to N Tanzania; SW Angola and NW Namibia; also Canary Is, Cape Verde Is and Socotra. Nepal and India (except NW). Canary Is.	ENDANGERED. CITES II. Has undergone general decline, at least in Europe; population now more stable, and even recovering in some areas.
Hooded Vulture <i>Necrosyrtes monachus</i>	Sub-Saharan Africa from S Mauritania and Senegal E through Niger and Chad to W Sudan, South Sudan and N Uganda. E Sudan, Eritrea, Ethiopia and W Somalia S (away from densely forested areas and continuous desert) to N Namibia and Botswana, Zimbabwe, Mozambique and NE South Africa	CRITICALLY ENDANGERED. CITES II. Probably undergoing extremely rapid decline. Not considered a species of conservation concern until 2011, when listed as Endangered; following suspicion of very rapid overall decline, and likelihood of continuing reduction in numbers, it was uplisted to Critically Endangered in 2015.
White-backed Vulture <i>Gyps africanus</i>	Mauritania E to Ethiopia and S to N and E South Africa.	CRITICALLY ENDANGERED. CITES II. The commonest and most widespread vulture in Africa, now suffering rapid declines.
White-rumped Vulture <i>Gyps bengalensis</i>	SE Iran, Afghanistan (perhaps irregularly) and Pakistan through Nepal and India to SC China (Yunnan), Indochina and N Malay Peninsula.	CRITICALLY ENDANGERED. CITES II. Formerly described as the world's most abundant large bird of prey, population has suffered exceedingly rapid decline.
Indian Vulture <i>Gyps indicus</i>	SE Pakistan (Sind) and India S of R Ganges (mainly in NW, W & S); recently recorded in Nepa	CRITICALLY ENDANGERED. CITES II. Has undergone catastrophic decline (more than 97%) throughout range since mid 1990s as result of mortality from feeding on carcasses of animals treated with the veterinary drug diclofenac.
Ruppell's Griffon <i>Gyps rueppelli</i> Two subspecies	SW Mauritania E to Sudan, N to Air Massif (NW Niger) and S to Uganda, Kenya and N Tanzania. Ethiopia, Eritrea and NW Somalia, possibly ranging to S Arabia.	CRITICALLY ENDANGERED. CITES II. Until 2007 not considered a species of conservation concern, then listed as Near Threatened until 2012; following severe decline in several parts of range, suspicion of very rapid overall decline, and likelihood of continuing reduction in numbers, has been upgraded to Endangered and, in 2015, to Critically Endangered.
Himalayan Vulture <i>Gyps himalayensis</i>	Himalayas from N Pakistan and N India through S Tibet and Nepal to Bhutan, N	NEAR THREATENED. CITES II. Numbers on Tibetan Plateau estimated at c.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
	Assam and C China; also NE through Pamirs to Tien Shan, and possibly also into Tabagatai and Altai.	230,000, where species is revered for its role in consuming human corpses set out in traditional “sky burials.”
Eurasian Griffon Vulture <i>Gyps fulvus</i> Two subspecies	NW Africa and Iberian Peninsula E through Balkans, Turkey, Middle East, Arabia and Iran to Pamirs and Altai. Afghanistan, Pakistan and N India E to Assam.	Least Concern. CITES II.
Cape Vulture <i>Gyps coprotheres</i>	Centered on Lesotho and South Africa, extending to Namibia, Botswana, Zimbabwe, S Mozambique and Swaziland, rarely wandering N to Zambia.	ENDANGERED. CITES II. Overall declines of 92% over three generations (48 years) thought to be occurring.
Cinereous Vulture <i>Aegypius monachus</i>	S Palearctic, from Spain, Balearic Is and Balkans through Turkey, Caucasus, Iran and Afghanistan to S Siberia, Mongolia, N China and extreme N India. Winters S to Sudan, Middle East, Pakistan, NW India and Korea.	NEAR THREATENED. CITES II. Moderately small population apparently suffered continued decline in Asiatic strongholds, though numbers in parts of Europe were increasing.
Lappet-faced Vulture <i>Torgos tracheliotos</i> Three subspecies	Extreme SW Morocco; S Mauritania E to Ethiopia and Kenya, S to South Africa. Egypt and N Sudan. S Israel and Arabian Peninsula.	ENDANGERED. CITES II. Appears to be declining at a fast rate. Overall declines in Africa calculated to be 80% over three generations (45 years); global decline conservatively estimated at 58%.
White-headed Vulture <i>Trigonoceps occipitalis</i>	Senegal E to Ethiopia (including Dahlak Archipelago) and Somalia, then S to Namibia and N South Africa.	CRITICALLY ENDANGERED. CITES II. Very large range, but small and rapidly declining population. Not considered of conservation concern until 2007, then listed as Vulnerable until 2015, when evidence of extremely rapid declines led to reassessment as Critically Endangered.
Red-headed Vulture <i>Sarcogyps calvus</i>	E Pakistan through India, except extreme S, and Nepal to SC China (S Yunnan), Burma, Indochina and N Malay Peninsula.	CRITICALLY ENDANGERED. CITES II. Rather small population has suffered extremely rapid reduction in recent past, this is likely to continue.
Short-toed Snake-eagle <i>Circaetus gallicus</i> Two subspecies	NW Africa and SW Europe N to the Gulf of Finland and E to L Balkhash and Iran; Indian Subcontinent; Lesser Sundas (from Lombok to Timor). W populations winter in the Sahel zone.	Least Concern. CITES II. Declined markedly in the past, disappearing from most of C & N Europe in the 19 th century; possibly stable at the end of the 20 th century.
Beaudouin's Snake-eagle <i>Circaetus beaudouini</i>	S Mauritania and Senegambia E to SW Sudan, N Uganda and NW Kenya.	VULNERABLE. CITES II. It has a small population that has suffered rapid decline within its extensive range.
Black-chested Snake-eagle <i>Circaetus pectoralis</i>	E Sudan and Ethiopia S to South Africa.	NEAR THREATENED. CITES II. Small population is thought to be declining as a consequence of habitat loss and degradation.
Brown Snake-eagle <i>Circaetus cinereus</i>	Senegambia E to N Ethiopia and S to South Africa.	Least Concern. CITES II. Widespread and conspicuous but often at low density, such as 1 pair/200 km ² .
Fasciated Snake-eagle <i>Circaetus fasciolatus</i>	Kenya to NE South Africa along the E coast of Africa and further inland along major rivers.	Least Concern. CITES II. Currently considered near-threatened. Locally

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
		common, but habitat often patchy and restricted.
Banded Snake-eagle <i>Circaetus cinerascens</i>	Senegambia E to S Sudan and W Ethiopia, then S to R Zambezi, occurring S to Angola and Namibia in W, and Zimbabwe and Zambia in E.	Least Concern. CITES II. Locally common but with patchy linear distribution. VULNERABLE to degradation of riverine habitat, e.g. in NE Namibia, where only 14 pairs now estimated to occur.
Bateleur Eagle <i>Terathopius ecaudatus</i>	Senegambia E to Sudan and Ethiopia then S to Namibia and South Africa.	NEAR THREATENED. CITES II. Has extensive range, within which is thought to have suffered moderately rapid declines since the 1970s; possibly approaching the threshold for classification as Vulnerable.
Crested Serpent-eagle <i>Spilornis cheela</i> 21 subspecies	N India and Nepal. India S from Gujarat and Gangetic Plain. Sri Lanka. Burma, SW China, Thailand and Indochina. Andaman Is; possibly also Nicobar Is. C Nicobar Is. N Vietnam and SC & SE China. S Ryukyu Is. Taiwan. Hainan. Palawan group (Philippines). Lowlands of N Borneo. S Borneo. Natuna Is, and Belitung I (off W & SW Borneo). Malay Peninsula (from S Tenasserim), nearby Anambas Is and N Sumatra. S Sumatra and Batu Is (off W Sumatra). Simeulue I (off W Sumatra). Nias I (off W Sumatra). Mentawai Is (off W Sumatra). Java and Bali. Bawean I (off N Java).	Least Concern. CITES II. Throughout extensive range generally widespread and common, sometimes abundant, but locally uncommon.
Nicobar Serpent-eagle <i>Spilornis klossi</i>	Great Nicobar I (Nicobar Is.).	NEAR THREATENED. CITES II. Has extremely small range, within which it is thought to be in decline.
Mountain Serpent-eagle <i>Spilornis kinabaluensis</i>	Mountains of N Borneo, recorded on Mt Mulu (NE Sarawak), MT Murud (NE Kalimantan) and MT Kinabalu (W Sabah).	VULNERABLE. CITES II. Very small range, and probably a small population likely decreasing because of continuing habitat loss and degradation.
Sulawesi Serpent-eagle <i>Spilornis rufipectus</i> Two subspecies	Sulawesi, and islands of Salayar, Muna and Buntung, off S Sulawesi. Banggai and Sula Is, off E Sulawesi.	Least Concern. CITES II.
Philippine Serpent-eagle <i>Spilornis holospilus</i>	N & E Philippine Is, from Luzon S to Mindanao.	Least Concern. CITES II.
Andaman Serpent-eagle <i>Spilornis elgini</i>	Andaman Is.	VULNERABLE. CITES II. Very small range not severely fragmented; believed to be quite common, evidently the commonest raptor in Andamans, but population may be very small, and subpopulation structure (if any) and population trends are unknown.
Congo Serpent-eagle <i>Dryotriorchis spectabilis</i> Two subspecies	Sierra Leone E to S Nigeria and NW Cameroon. S Cameroon E to W Uganda and S to Gabon and SC Zaire; N Angola.	Least Concern. CITES II.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Eurasian Marsh-harrier <i>Circus aeruginosus</i> Two subspecies	Europe and Asia Minor E into C Asia, E to upper R Yenisey and Mongolia; winters in W & S Europe, Africa S of Sahara, and in Indian Subcontinent and Sri Lanka. NW Africa, from Morocco to Tunisia.	Least Concern. CITES II. Population trends have varied in Europe throughout the 20 th century, but overall decline in numbers and range.
African Marsh-harrier <i>Circus ranivorus</i>	Zaire, Uganda and Kenya S to South Africa; ranges NE to Ethiopia and Somalia.	Least Concern. CITES II. Common on major wetlands of E and S Africa, especially in Botswana, Zambia and Uganda.
Eastern Marsh-harrier <i>Circus spilonotus</i>	SE Siberia and Mongolia to Ussuriland, Sakhalin, NE China and N Japan; winters from S Japan and SE Asia and S China to Indonesia and Philippines. C & E New Guinea.	Least Concern. CITES II. Very little information available about population sizes and trends. Generally rare and patchily distributed in the former USSR; uncommon breeders in N Japan.
Papuan Marsh-Harrier <i>Circus spilothorax</i>	C & E New Guinea	Least Concern.
Pacific Marsh-harrier <i>Circus approximans</i>	S New Guinea (breeding uncertain), Melanesia, Australia, New Zealand and Polynesia E to Tonga. Introduced to Society Is.	Least Concern. CITES II. Common in suitable habitat, but local declines where wetlands drained. Nests vulnerable to human disturbance.
Reunion Harrier <i>Circus maillardi</i>	Reunion I.	ENDANGERED. CITES II. Tiny range, confined to Reunion I, where population is extremely small and loss and degradation of habitat are continuing.
Madagascar Harrier <i>Circus macrosceles</i>	Madagascar and Comoro Is.	ENDANGERED. CITES II. Surveys of Madagascar in 2005–2006 covered 71% of the potential habitat and found only 80 individuals.
Long-winged Harrier <i>Circus buffoni</i>	SW Columbia to the Guianas, Trinidad and Tobago, and NE Brazil (Pará and Maranhão), then S to E Bolivia, N & C Argentina and C Chile.	Least Concern. CITES II. Widespread, but apparently rather local. Very poorly known.
Spotted Harrier <i>Circus assimilis</i>	Australia; Sulawesi and Sula Is (C Moluccas); also recorded on Sumba and Timor (Lesser Sundas), but probably migrants.	Least Concern. CITES II. Generally uncommon but widespread; may have benefited locally in S by creation of habitat, and increase in native and introduced prey.
Black Harrier <i>Circus maurus</i>	S South Africa, ranging N to Transvaal, Lesotho, S Namibia and S Botswana.	ENDANGERED. CITES II. Estimated global population 1000 individuals, equivalent to 670 mature individuals.
Hen Harrier <i>Circus cyaneus</i>	Europe and N. Asia E. to Kamchatka; winters from Europe and NW Africa through S Asia to SE China and Japan.	Least Concern. CITES II. Population trends vary regionally, but generally seem to be in decline.
Northern Harrier <i>Circus hudsonius</i>	North America, S to NW Mexico and SE Virginia (USA); winters S to N South America.	Least Concern. CITES II.
Cinereous Harrier <i>Circus cinereus</i>	Columbia and Ecuador (above tree line) S through Peru, Bolivia and Paraguay to	Least Concern. CITES II. Overall in no danger; in S portions of range can be common, in some areas second most

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
	extreme S Brazil, then S to Tierra del Fuego and Falkland Is.	abundant raptor after Chimango Caracara (<i>Milvago chimango</i>).
Pallid Harrier <i>Circus macrourus</i>	Ukraine and SW Russia E to L Balkhash region, NW China. Winters mainly in Africa S of Sahara, and from Pakistan, India and Sri Lanka E to S China, and irregularly to E China.	NEAR THREATENED. CITES II. Suffering steep population decline in Europe, but numbers believed more stable in Asiatic strongholds; probably in moderately rapid decline overall.
Pied Harrier <i>Circus melanoleucus</i>	S Siberia (L Baikal) and Mongolia E to Amurland, Manchuria and N Korea; has bred in N Burma and NE India (Assam). Winters from India and Sri Lanka to S China, Borneo and Philippines.	Least Concern. CITES II. Relatively small range, apparently with limited numbers; population size and trends poorly known; total of 14,534 birds counted migrating over Beidaihe (NE China) in autumn 1986.
Montagu's Harrier <i>Circus pygargus</i>	NW Africa and S & C Europe E through Caspian lowlands to Kazakhstan and upper R Yenisey. Winters in Africa S of Sahara and Indian Subcontinent S to Sri Lanka.	Least Concern. CITES II. In decline, mainly due to transformation of natural or semi-natural habitats and high rate of breeding failure in agricultural areas, in turn caused by nestlings dying following harvesting of crops.
African Harrier-hawk <i>Polyboroides typus</i> Two subspecies	Senegambia E to W Sudan, N to Air Mountains (NW Niger) and S to Zaire. E Sudan to Eritrea and S to Angola and South Africa.	Least Concern. CITES II. One of commonest birds of prey in forests and woodlands of W and C Africa, especially where oil and <i>Borassus</i> palms are abundant.
Madagascar Harrier-hawk <i>Polyboroides radiatus</i>	Madagascar.	Least Concern. CITES II. One of the five commonest raptors on Madagascar.
Lizard Buzzard <i>Kaupifalco monogrammicus</i> Two subspecies	Senegambia E to Ethiopia and S to Uganda and Kenya. S Kenya S to N South Africa and W to Angola, and N Namibia.	Least Concern. CITES II. Vulnerable to cutting of woodland and burning or grazing of grass cover.
Dark Chanting-goshawk <i>Melierax metabates</i> Five subspecies	SW Morocco. Mali E to N Sudan. SW Arabian Peninsula. Senegambia E to Ethiopia and S to NE Zaire and N Tanzania. Angola E to S Tanzania and S to N Namibia and NE South Africa.	Least Concern. CITES II.
Eastern Chanting-goshawk <i>Melierax poliopterus</i>	SE Ethiopia and Somalia S to E Uganda and N Tanzania	Least Concern. CITES II.
Pale Chanting-goshawk <i>Melierax canorus</i> Two subspecies	S Angola S and E through Namibia, Botswana and Zimbabwe to NE South Africa and Transvaal and NW Orange Free State. S South Africa, in Cape Province, SE Orange Free State and (formerly) S Natal.	Least Concern. CITES II.
Gabar Goshawk <i>Micronisus gabar</i> Three subspecies	Ethiopian highlands S to Zaire, Zambia and N Mozambique. S Angola, Zambia and Mozambique S to South Africa.	Least Concern. CITES II.
Gray-bellied Goshawk <i>Accipiter poliogaster</i>	E of Andes from Colombia and NE Ecuador, S Venezuela and the Guianas S through Brazil	NEAR THREATENED. CITES II. Poorly known; although widespread, it is patchily

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	(except NE), E Peru, Bolivia and Paraguay to N Argentina.	distributed and appears to be rare to scarce throughout range.
Crested Goshawk <i>Accipiter trivirgatus</i> 11 subspecies	Sri Lanka. SW India. NC, NE & E India and Nepal to S China, including Hainan, and S to Indochina and Malay Peninsula. Taiwan. Sumatra. Nias I (off W Sumatra). Java; recently recorded in Bali. Borneo. Palawan, Calamianes (SW Philippines); may also be a race of Natuna Is (off W Borneo). SE Philippines. Polillo Is, off E Luzon (N Philippines).	Least Concern. CITES II. Apparently uncommon to common throughout extensive range; possibly commoner than thought simply not detected because of unobtrusive habits and preference for forest interiors.
Sulawesi Goshawk <i>Accipiter griseiceps</i>	Sulawesi and off-lying Togian Is, Muna and Butung.	Least Concern. CITES II. Generally reckoned to be uncommon, e.g. in Dumoga-Bone National Park (N Sulawesi); may actually be commoner than thought but infrequently observed due to unobtrusive behavior.
Red-chested Goshawk <i>Accipiter toussenelii</i> Four subspecies	Senegambia to W Cameroon in the rainforest. S Cameroon to Gabon, in the lower Zaire River basin. Upper Zaire River basin. Bioko I (Fernando Po).	Least Concern. CITES II.
African Goshawk <i>Accipiter tachiro</i> Five subspecies	Ethiopian highlands. SW Ethiopia. Somalia, through E Africa, Zanzibar and SE Zaire to N Angola, N Zambia, N Malawi and N Mozambique. Pemba I (Tanzania). S Angola, S Zambia, S Malawi and S Mozambique S to South Africa.	Least Concern. CITES II.
Chestnut-flanked Sparrowhawk <i>Accipiter castanilius</i>	Nigeria E to Zaire River basis. Purported presence in Upper Guinea forests W of Nigeria requires confirmation.	Least Concern. CITES II. Secretive, but thought to be common in larger tracts of pristine forest, of which considerable areas remain. Vulnerable to deforestation, although will enter clearings to hunt; numbers may be much reduced in parts of range.
Shikra <i>Accipiter badius</i> Six subspecies	Azerbaijan E to Kazakhstan and Iran E to NW India, migrating further S in winter. C India and Bangladesh. SW India and Sri Lanka. NE India E to S China, S to Thailand and Vietnam. Senegambia E to SW Arabia, S to N Zaire and N Tanzania. S Zaire and S Tanzania to N South Africa.	Least Concern. CITES II.
Nicobar Sparrowhawk <i>Accipiter butleri</i> Two subspecies	A.b. butleri - Car Nicobar I (N Nicobar Is). A.b. obsoletus - Katchall I and possibly Camorta I (C Nicobar Is).	VULNERABLE. CITES II. A small population thought to be in decline. Rarely observed during ongoing field surveys.
Levant Sparrowhawk <i>Accipiter brevipes</i>	SE Europe, SW Ukraine and S Russia E to W Kazakhstan; more locally in Turkey, Caucasus and Iran. Thought to winter mainly in E Sahel zone of sub-Saharan Africa.	Least Concern. CITES II. Size and trends of populations insufficiently known, but species less rare than was thought before 1980's.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Chinese Sparrowhawk <i>Accipiter soloensis</i>	S Ussuriland and Korea; C & E China and Taiwan. Winters from extreme SE China and Hainan, S through Indochina, Philippines and Indonesia to W New Guinea and occasionally W Micronesia.	Least Concern. CITES II.
Frances's Sparrowhawk <i>Accipiter francesii</i> Four subspecies	Madagascar. Ngazidja (Grand Comoro), Comoro Is. Ndzuani (Anjouan), Comoro Is. Maore (Mayotte), Comoro Is.	Least Concern. CITES II. The commonest <i>Accipiter</i> on Madagascar, but uncommon in the arid S.
Spot-tailed Goshawk <i>Accipiter trinotatus</i>	Sulawesi and off-lying islands of Talisei, Muna and Butung.	Least Concern. CITES II.
Variable Goshawk <i>Accipiter novaehollandiae</i> 22 subspecies	A widely distributed species, from Sumbawa in the Lesser Sundas, and Halmahera and adjacent islands in the North Moluccas, east to New Guinea, including many offshore islands, and across much of Melanesia as far south and east as the southern Solomon Islands.	Least Concern. CITES II. Despite its large range across most of eastern Indonesia and relative abundance, even in rather degraded habitats, the Variable Goshawk is a remarkably poorly known raptor. Virtually nothing has been published on the species' life history, including breeding, diet, and behavior, beyond a few anecdotal reports. The complex might involve at least three different species.
Gray Goshawk <i>Accipiter novaehollandiae</i>	N & E Australia and Tasmania.	Least Concern. CITES II.
Brown Goshawk <i>Accipiter fasciatus</i> 11 subspecies	Christmas I (Indian Ocean). Sumba (Lesser Sundas). Lesser Sundas, from Lombok E to Babar. Islets between Sulawesi and Lesser Sundas. Timor, Alor, Roti (Lesser Sundas). Sawu (Lesser Sundas). E New Guinea. S New Guinea. N Australia; Buru (S Moluccas). Timor (Lesser Sundas); Australia and Tasmania; Rennell and Bellona Is (Solomons). New Caledonia, Loyalty Is, Vanuatu.	Least Concern. CITES II. Common and widespread; local declines in S Australia where habitat clearance is extensive, but species has benefited from introduction of rabbits; preys on introduced birds.
Black-mantled Goshawk <i>Accipiter melanochlamys</i> Two subspecies	Vogelkop (W New Guinea). Montane C & E New Guinea.	Least Concern. CITES II. Widespread in all montane areas of mainland New Guinea but lives in remote, rugged and densely forested areas and is seldom encountered by ornithologists.
Pied Goshawk <i>Accipiter albogularis</i> Five subspecies	Feni Is (Bismarcks). N, E & S Solomons. San Cristobal, Santa Ana (Solomons). Santa Cruz Is.	Least Concern. CITES II. Appears to be common, at any rate in parts of range, but biology and population trends virtually unknown.
New Caledonia Goshawk <i>Accipiter haplochrous</i>	New Caledonia.	NEAR THREATENED. CITES II. Restricted to a single small island, where it is thought to be undergoing moderate decline.
Fiji Goshawk <i>Accipiter rufitorques</i>	Fiji Is.	Least Concern. CITES II.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Moluccan Goshawk <i>Accipiter henicogrammus</i>	N Moluccas, on Morotai, Halmahera, Bacan and perhaps Tenate.	NEAR THREATENED. CITES II. Apparently uncommon, but unobtrusive; possibly commoner than thought.
Slaty-mantled Goshawk <i>Accipiter luteoschistaceus</i>	New Britain.	VULNERABLE. CITES II. Restricted distribution and presumably low total population size. Apparently scarce, and seldom seen by ornithologists; biology unknown.
Imitator Sparrowhawk <i>Accipiter imitator</i>	Bougainville, Choiseul and Santa Isabel, in N & C Solomon Is.	VULNERABLE. CITES II. Poorly known, and extremely few observations. Appears to be rare, this possibly due to its unobtrusiveness in forest interior and a relative lack of ornithological survey. Thought to have very small and declining subpopulations on three islands.
Gray-headed Goshawk <i>Accipiter poliocephalus</i>	W Papuan Is and Aru Is through New Guinea to Fergusson I (D'Entrecasteaux Is) and Misima I and Tagula I (Louiada Archipelago).	Least Concern. CITES II.
New Britain Goshawk <i>Accipiter princeps</i>	New Britain.	VULNERABLE. CITES II. Very poorly known; rare to scarce. Small population is likely in decline owing to deforestation. Confined to New Britain, where known from four specimens and a very few recent records.
Tiny Hawk <i>Accipiter superciliosus</i> Two subspecies	Nicaragua S to W Columbia and W Ecuador. E of Andes, from Colombia E through Venezuela (except NW) to the Guianas, and S through Ecuador, E Peru, Bolivia (Beni, Santa Cruz) and Brazil to Paraguay and N Argentina (Misiones).	Least Concern. CITES II. Status very poorly known, but large range and tendency to use second growth forest suggest species in no immediate danger.
Semi Collared Hawk <i>Accipiter collaris</i>	SW Venezuela (Mérida, Táchira) S, on W & E slopes of Andes, through Colombia to Ecuador; recent range extension of 1500 km to S Peru.	NEAR THREATENED. CITES II. Currently considered near-threatened. Very little known; thorough surveys needed.
Red-thighed Sparrowhawk <i>Accipiter erythropus</i> Two subspecies	Senegambia to Nigeria. Cameroon E to W Uganda and S to N Angola and C Zaire.	Least Concern. CITES II. Small size suggests it may occur at high density in pristine forest, large tracts of which remain in C Africa.
Little Sparrowhawk <i>Accipiter minullus</i>	S Sudan and Ethiopia S to South Africa and W to Angola and Namibia.	Least Concern. CITES II.
Japanese Sparrowhawk <i>Accipiter gularis</i> Three subspecies	Upper R Ob and Mongolia E to middle R Lena, E China and Taiwan; presumably winters from Andaman and Nicobar Is E to S China and Greater Sundas. Sakhalin, S Kuril Is and Japan; winters S to Philippines, Greater Sundas, N Sulawesi and Timor. S Ryukyu Is (Iriomote, Ishigaki).	Least Concern. CITES II. Status and trends of populations very poorly known, with virtually no figures available.
Small Sparrowhawk <i>Accipiter nanus</i>	Mountains of Sulawesi; in S only on Buton	NEAR THREATENED. CITES II. Very poorly known, and difficult to identify.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Besra <i>Accipiter virgatus</i> 11 subspecies	N India and Nepal E to C & S China, and Indochina. Mountains of Taiwan. SW India and Sri Lanka, probably also SE India. Andaman Is. and possibly Nicobar Is. Burma and Thailand; possibly also Malay Peninsula. Luzon, Mindoro, Negros and Catanduanes (N & E Philippines). Cebu, Bohol, Leyte, Samar, Siquijor and Mindanao (SE Philippines). N Borneo. Sumatra. Java and Bali. Flores (Lesser Sundas).	Least Concern. CITES II. Uncommon to common throughout extensive range. Main threat is deforestation, e.g. in much of lowland India, Philippines and Java.
Rufous-necked Sparrowhawk <i>Accipiter erythrauchen</i> Two subspecies	Mortrotai, Halmahera, Bacan and Obi (N Moluccas). Buru, Ambon and Seram (S Moluccas).	NEAR THREATENED. CITES II. Uncommon, but unobtrusive and easily overlooked. Status very poorly known; most likely threat is loss of forest habitat.
Collared Sparrowhawk <i>Accipiter cirrocephalus</i> Three subspecies	New Guinea, W Papuan Is, Aur Is. Rossel I (Louiadié Archipelago). Australia, Tasmania.	Least Concern. CITES II. Uncommon, but widespread; secretive and probably under-recorded.
New Britain Sparrowhawk <i>Accipiter brachyurus</i>	New Britain.	VULNERABLE. CITES II. Scarce, and seldom encountered by ornithologists; population trend and biology unknown.
Vinous-breasted Sparrowhawk <i>Accipiter rhodogaster</i> Three subspecies	Sulawesi. Muna and Butung (off SE Sulawesi). Banggai and Sula Is.	Least Concern. CITES II. Widespread and apparently uncommon; perhaps commoner than thought, but overlooked because of unobtrusive habits.
Madagascar Sparrowhawk <i>Accipiter madagascariensis</i>	Madagascar.	NEAR THREATENED. CITES II. Widespread, but uncommon to rare. Poorly known species, often misidentified.
Ovambo Sparrowhawk <i>Accipiter ovampensis</i>	Senegambia, Sierra Leone and Chana E to Ethiopia and S to Angola, N Namibia, N Botswana and N South Africa.	Least Concern. CITES II.
Eurasian Sparrowhawk <i>Accipiter nisus</i> Six subspecies	Europe and Asia Minor E to W Siberia; winters S to NE Africa and Middle East. C & E Asia; winters S to India, Sri Lanka and Indochina. Himalayas and mountains of C Asia. Corsica and Sardinia. Madeira and Canary Is. NW Africa, from Morocco to Tunisia.	Least Concern. CITES II. Declined drastically in Europe during the 1950's and 1960's due to generalized use of organochlorine pesticides, which killed adults and lowered breeding success.
Rufous-breasted Sparrowhawk <i>Accipiter rufiventris</i> Two subspecies	Ethiopian highlands. Kenya and E Zaire S to South Africa.	Least Concern. CITES II.
Sharp-shinned Hawk <i>Accipiter striatus</i> Ten subspecies	Widespread across North America, and also continues south to northern Argentina, primarily in mountainous regions and in eastern South America.	Least Concern. CITES II. Threats include shooting, trapping, pesticides and other contaminants, collisions, and degradation of habitat.
Cooper's Hawk <i>Accipiter cooperii</i>	USA and S Canada. Winters from N USA to C America, regularly as far S as Honduras, occasionally to Colombia.	Least Concern. CITES II.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Gundlach's Hawk <i>Accipiter gundlachi</i> Two subspecies	Cuba	ENDANGERED. CITES II. Has a small range in which a very small and extremely fragmented population has, until recently, continued to decline. Current estimate 400 individual's equivalent to 270 adults.
Bicolored Hawk <i>Accipiter bicolor</i> Five subspecies	Mexico south to Ecuador and east of the Andes south to northern Argentina	Least Concern. CITES II. Widespread, but generally rare.
Black Goshawk <i>Accipiter melanoleucus</i> Two subspecies	Senegambia E to Gabon, Congo and Central African Republic. E Sudan and N & W Ethiopia; Gabon and Zaire E to Kenya and S to Angola and South Africa; Pemba and Zanzibar.	Least Concern. CITES II.
Henst's Goshawk <i>Accipiter henstii</i>	Madagascar	NEAR THREATENED. CITES II.
Northern Goshawk <i>Accipiter gentilis</i> Eight subspecies	Europe and extreme NW Africa. Corsica and Sardinia. Extreme N Eurasia, from N Sweden E to R Lena; winters S to C Europe and C Asia. NE Siberia to Kamchatka. Asia, from Urals to Amurland, Sakhalin and Kuril Is, S to C China; winters S to Himalayas and N Indochina. Japan. North America, S to Tennessee and S Arizona (USA) and Jalisco (W Mexico). Charlotte Is and Vancouver I, British Columbia (W Canada).	Least Concern. CITES II. Significant decline in Europe during the 19 th century and the 20 th , mainly due to persecution and deforestation.
Meyer's Goshawk <i>Accipiter meyerianus</i>	Halmahera and Seram (Moluccas) through N & E New Guinea to New Britain and Solomon Is (on Kolombangara and Guadalcanal).	Least Concern. CITES II. Scarce, and seldom encountered by ornithologists; biology poorly known.
Chestnut-shouldered Goshawk <i>Erythrotriorchis buergersi</i>	N & E New Guinea.	Data Deficient. CITES II. Scarce, and seldom encountered by ornithologists; biology unknown.
Red Goshawk <i>Erythrotriorchis radiatus</i>	N & E Australia, from Kimberleys round to N New South Wales.	NEAR THREATENED. CITES II. Numbers are still small and probably declining, but population estimates larger than previous assessments.
Doria's Hawk <i>Megatriorchis doriae</i>	New Guinea; also recorded on Batanta I, off NW New Guinea.	NEAR THREATENED. CITES II. Scarce, and seldom encountered by ornithologists; biology unknown.
Long-tailed Hawk <i>Urotriorchis macrourus</i>	Liberia E to W Uganda and S to SW & C Zaire.	Least Concern. CITES II. Secretive but widely recorded from primary forest; restricted to large tracts of dense forest, although readily occurs at edge of clearings. Much affected by deforestation, due to intolerance of secondary habitats, and has probably decreased considerably throughout much of W Africa.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Grasshopper Buzzard <i>Butastur rufipennis</i>	Senegambia E to Ethiopia, migrating S to Sierra Leone, Cameroon, NE Zaire, Kenya and N Tanzania.	Least Concern. CITES II.
White-eyed Buzzard <i>Butastur teesa</i>	SE Iran, Afghanistan and Pakistan through India and Nepal to Burma (S to Tenasserim).	Least Concern. CITES II.
Rufous-winged Buzzard <i>Butastur liventer</i>	Burma and SC China (SW Yunnan) S to Indochina and N Malay Peninsula; Java; Sulawesi. Reported occurrence in SE Borneo doubtful; old record of questionable validity from Timor.	Least Concern. CITES II. Throughout most of range fairly common to uncommon, but local; rare in Yunnan (SC China) and Java. Not encountered in Java during recent raptor surveys.
Gray-faced Buzzard <i>Butastur indicus</i>	NE China to Amurland and Ussuriland, Japan and Izu Is. Winters from S & SE China and Taiwan through Indochina and Malay Peninsula to Greater Sundas, Philippines, Sulawesi and islands off NW New Guinea.	Least Concern. CITES II. Size and trends of populations very poorly known.
Crane Hawk <i>Geranospiza caerulescens</i> Six subspecies	NW Mexico. N Mexico (Sinaloa and Tamaulipas) S to the Panama Canal. Panama E of canal zone on Pacific slope to W Colombia, W Ecuador and NW Peru (Lambayeque). E slope of Colombia and Ecuador to the Guianas and Amazonian Peru and Brazil. NE Brazil, from Maranhão, Ceará and Piauí to C Goiás and Bahia. S Brazil (Minas Gerais, S Goiás and Mato Grosso) and Bolivia through Chaco of Paraguay, to NC Argentina (S to La Rioja, Córdoba and Buenos Aires) and Uruguay.	Least Concern. CITES II. Generally not common, but extensive geographical range and broad habitat tolerance suggest little grounds for immediate concern.
Plumbeous Hawk <i>Cryptoleucopteryx plumbea</i>	E. Panama through W Colombia and W Ecuador to extreme NW Peru.	VULNERABLE. CITES II. Deforestation due to agriculture and timber harvest is occurring across most of its range.
Slate-colored Hawk <i>Buteogallus schistaceus</i>	Amazonia, from SE Colombia and SW Venezuela S through E Ecuador and E Peru to N & E Bolivia, and E to E French Guiana and CN Brazil.	Least Concern. CITES II. Generally fairly common. Status uncertain, but extensive range suggests there is no need for immediate concern; surveys required to assess the situation more definitely. Biology is very poorly known.
Barred Hawk <i>Morphnarchus princeps</i>	Costa Rica and Panama, and locally into W Colombia and N Ecuador on both sides of the Andes.	Least Concern. CITES II. Too little is known to permit accurate assessment of status, but propensity to use forest edges suggests it is not a species of imminent concern.
Roadside Hawk <i>Rupornis magnirostris</i> 12 subspecies	Mexico through Central America to most of South America east of the Andes	Least Concern. CITES II. A very common hawk throughout Much of Central and South America
Black-faced Hawk <i>Leucopternis melanops</i>	The Guianas and Amazonia N of Amazon R to E Colombia and E Ecuador. Specimens	Least Concern. CITES II. Status very poorly known. Apparently rare throughout, but very secretive and often overlooked;

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
	from R Tapajós (S of Amazon) may refer to <i>L. kuhli</i> .	most of forest in extensive range persists, so probably not a species of immediate concern.
White-browed Hawk <i>Leucopternis kuhli</i>	E Peru (C Loreto S to Madre de Dios), N Bolivia (Pando) and Amazonian Brazil S of R Amazon (from R Madeira E to E Pará).	Least Concern. CITES II. Very poorly known, but so much forest in its extensive range remains intact that species cannot be considered of immediate concern. Surveys and research required.
Semiplumbeous Hawk <i>Leucopternis semiplumbeus</i>	Honduras S to W Colombia (E to Magdalena Valley) and NW Ecuador (Esmeraldas).	Least Concern. CITES II. Currently considered near-threatened. Perhaps of little concern at present, as is the commonest hawk in some areas of primary forest, and is tolerant of second growth.
Bermuda Hawk <i>Bermuteo avivorus</i>	Bermuda	EXTINCT
White Hawk <i>Pseudastur albicollis</i> Four subspecies	S Mexico (Oaxaca and Veracruz) to Guatemala and Belize. Honduras to Panama and W Colombia. NW Colombia (upper Sinú and lower Magdalena Valleys S to Valle) and extreme NW Venezuela (Perijá). Colombia, NW Venezuela (NW Zulia), Trinidad and the Guianas through Amazonia to E Peru, E Ecuador, N & E Bolivia (La Paz, Santa Cruz) and C & E Brazil (C Mato Grosso and N Maranhão).	Least Concern. CITES II.
Gray-backed Hawk <i>Pseudastur occidentalis</i>	W Ecuador and adjacent NW Peru. Single record from E Andean slope now questioned by its authors.	ENDANGERED. CITES II. Very small population, in rapid decline owing to continuing habitat destruction.
Mantled Hawk <i>Pseudastur polionotus</i>	E Brazil (Alagoas and Bahia) S to E Uruguay and E Paraguay (Alto Paraná). Purported Argentinian distribution (in Misiones) apparently based on supposition, with no confirmed records or data.	NEAR THREATENED. CITES II. Total population is believed to be small, and thought to be in moderately rapid decline owing to habitat loss and fragmentation.
Rufous Crab-hawk <i>Buteogallus aequinoctialis</i>	Orinoco Delta in E Venezuela along the coast to Paraná, S Brazil.	NEAR THREATENED. CITES II. Mangrove specialist makes it highly susceptible to habitat deterioration risk.
Common Black Hawk <i>Buteogallus anthracinus</i> Five subspecies	SW & S USA (S Utah and Arizona to Texas) through Central America to Panama and N Colombia, then along the Caribbean coast to NW Guyana, Trinidad and St Vincent (Lesser Antilles); penetrates inland to Huila, Colombia. Cuba and I of Pines. Cancún I and Cozumel I, off Yucatán; Utila I and Guanaja I, in the Gulf of Honduras; and perhaps other adjacent islands. Pacific coast of El Salvador and Honduras; probably from extreme SW Mexico (Chiapas) locally to Nicaragua. Pacific coast of Costa Rica and Panama, including Pearl Is. Pacific coast of Colombia	Least Concern. CITES II.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
	(and offshore islands), Ecuador and adjacent extreme N Peru (Tumbes).	
White-necked Hawk <i>Buteogallus lacernulatus</i>	E Brazil, from Alagoas and S Bahia to São Paulo and Santa Catarina.	VULNERABLE. CITES II. Small, fragmented population due to continued habitat loss and human persecution.
Savanna Hawk <i>Buteogallus meridionalis</i>	W Panama (Chiriquí) through tropical South America W of Andes to NW Peru, and E of Andes E to the Guianas and Trinidad, and S through Ecuador, E Peru, E Bolivia and Brazil to N Argentina (Tucumán, Córdoba and Santa Fe).	Least Concern. CITES II.
Great Black Hawk <i>Buteogallus urubitinga</i> Two subspecies	Mexico (C Sonora and S Tamaulipas) S to W Panama. E Panama, W of Andes S to W Ecuador, and E of Andes E to the Guianas, Trinidad and Tobago, and S through E Bolivia and Brazil to Paraguay, Uruguay and N Argentina (Tucumán, Santiago del Estero, Santa Fe).	Least Concern. CITES II.
Harris' Hawk <i>Parabuteo unicinctus</i> Two subspecies	SW USA (S California to Texas) through Mexico and Central America (except Belize and Honduras) to drier Pacific slope regions of W Colombia, Ecuador and Peru. NE Colombia and W Venezuela S through E Bolivia and C & NE Brazil (Maranhão and Ceará) to S Argentina (Río Negro) and SC Chile (Aisén).	Least Concern. CITES II.
Black-collared Hawk <i>Busarellus nigricollis</i> Two subspecies	C Mexico (Sinaloa and Veracruz) S through Central America to Amazonia, W to E Ecuador and E Peru, E to the Guianas and Trinidad, and S through E Bolivia to S Brazil. Paraguay, Uruguay and N Argentina (S to Salta, Santa Fe and Corrientes).	Least Concern. CITES II. Apparently declining in Panama, due to drainage of wetlands; same may well be true elsewhere.
Black-chested Buzzard-eagle <i>Geranoaetus melanoleucus</i> Two subspecies	NW Venezuela (Mérida Andes) through W South America S to Tierra del Fuego. S & E Brazil (Alagoas, Rio de Janeiro, São Paulo) to Paraguay, E Argentina (N of Buenos Aires), and Uruguay.	Least Concern. CITES II. Declines reported in S Argentina, in areas where strychnine used by sheep ranchers.
Solitary Eagle <i>Buteogallus solitarius</i> Two subspecies	Locally in highlands from W Mexico (Sonora) to Panama. Locally from Colombia (Santa Marta Mts) E to N Venezuela and S through humid Andes to NW Argentina; also occurs in the Guianas	NEAR THREATENED. CITES II. Has a moderately small population, which is likely in decline as a result of habitat loss and hunting.
Chaco Eagle <i>Buteogallus coronatus</i>	E Bolivia (Santa Cruz), W Paraguay and S Brazil (S from Mato Grosso and Goiás) to S Argentina (Mendoza and Río Negro); no definitive records from Uruguay, where probably occurs.	ENDANGERED. CITIES II. Increasing rates of deforestation, ranching, and agriculture resulting in a barren landscape
Gray-lined Hawk	SW Costa Rica to N Colombia and W Ecuador and NW Peru. E Colombia and E	Least Concern. CITES II.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
<i>Buteo nitidus</i> Three subspecies	Ecuador, E to Venezuela and the Guianas, and S through Amazonian Brazil to N Maranhão. SC Brazil (Piauí to Rio de Janeiro and Mato Grosso) and E Bolivia, S to Paraguay and NC Argentina (Tucumán and Chaco).	
Red-shouldered Hawk <i>Buteo lineatus</i> Five subspecies	S Oregon (NW USA) to N Baja California (Mexico). E North America, from S Canada to C USA. S Texas (USA) to Veracruz (CE Mexico). SC Texas to South Carolina and N Florida. Florida and Florida Keys.	Least Concern. CITES II. May have undergone slight overall decline since 1946; thought to be the result of alterations and loss of habitat; Christmas Bird Counts show winter populations have declined, except in California.
Ridgway's Hawk <i>Buteo ridgwayi</i>	Haiti, the Dominican Republic's Hispaniola and several adjacent islets.	CRITICALLY ENDANGERED. CITES II. Restricted geographic range and fragmented habitats of limited distribution.
Broad-winged Hawk <i>Buteo platypterus</i> Six subspecies	C & S Canada to S USA; winters S to Brazil. Cuba. Puerto Rico. Antigua (Lesser Antilles). Dominica, Martinique and St. Lucia (Lesser Antilles). St Vincent and Grenada to Tobago.	Least Concern. CITES II.
White-rumped Hawk <i>Parabuteo leucorrhous</i>	Apparently disjunct distribution: mountains of Venezuela and Colombia through Ecuador and Peru to NW Bolivia (Cochabamba, La Paz); Paraguay, S Brazil (N to Minas Gerais) and N Argentina (Salta, Tucumán, Chaco and Misiones).	Least Concern. CITES II. Very little known, and status uncertain
Short-tailed Hawk <i>Buteo brachyurus</i> Two subspecies	S Florida (USA); E Mexico to Panama. Colombia S to W Ecuador, E to the Guianas and Brazil, and S through E Peru and E Bolivia (La Paz and Cochabamba) to Paraguay and N Argentina (Jujuy, Tucumán, Misiones).	Least Concern. CITES II. Nowhere common, e.g. uncommon and thinly spread over Colombia; uncommon to rare in Florida (USA). Occurs over a very large range, and is tolerant of disturbed habitat; situation apparently secure.
White-throated Hawk <i>Buteo albogularis</i>	Andes, from Venezuela and Colombia S to C Chile and WC Argentina.	Least Concern. CITES II. Very poorly known. Generally rare and local throughout range, e.g. in Colombia. Preferred altitudinal range relatively less affected by human activities, especially transformation; also shows tolerance of disturbed habitat. Surveys and research required.
Swainson's Hawk <i>Buteo swainsoni</i>	W & C North America from Alaska SE to Minnesota, and S to N Mexico. Winters mostly in South America, especially in N Argentina, S Brazil and Paraguay; also some birds in S & W USA.	Least Concern. CITES II.
White-tailed Hawk <i>Geranoaetus albicaudatus</i> Three subspecies	SC USA (S Texas) and NW Mexico (Sonora) to N Colombia and NW Venezuela. E Colombia E to Suriname (except NW Venezuela), and S to Amazon, E from at least Manaus to the Atlantic coast; Aruba, Curaçao, Bonaire and Trinidad. Extreme SE Peru and S Brazil (S from Mato Grosso, Goiás and Bahia) through N & E Bolivia, Paraguay and	Least Concern. CITES II.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
	Uruguay to N & C Argentina (S to Río Negro).	
Galapagos Hawk <i>Buteo galapagoensis</i>	Galapagos Is.	VULNERABLE. CITES II. Has a small population, spread over eight islands of the Galapagos Archipelago. Total population uncertain and hard to gauge,
Variable Hawk <i>Geranoaetus polyosoma</i> Two subspecies	C Andes of Colombia S through Andes to Patagonia and Tierra del Fuego; Falkland Is. Alejandro Selkirk Is (Más Afuera) in Juan Fernández Is, off SC Chile.	Least Concern. CITES II. Status poorly known, but in general appears to be relatively secure, and locally common, e.g. EC Ecuador. Apparently declining in Chile.
Puna Hawk <i>Buteo poecilochrous</i>	Andes from S Colombia (C Andes and Cauca) S to N Chile and NW Argentina.	Least Concern. CITES II.
Zone-tailed Hawk <i>Buteo albonotatus</i>	Neotropical Buteo that reaches its northernmost limits in the southwestern United States. It is widely distributed, breeding as far south as central South America. Although adapted to a variety of habitats, it is uncommon and patchily distributed.	Least Concern. CITES II.
Hawaiian Hawk <i>Buteo solitarius</i>	Resident exclusively on Hawai'i I. Accidental on Kaua'i, Maui and Oahu.	Rare. CITES II. Currently listed as ENDANGERED by the government of USA, but recently (1993) proposed for down-listing to Threatened. Total population is thought to be fairly stable and roughly estimated at 2700 birds, but figure principally from extrapolations of home range sizes of radio-tagged birds. Lack of accurate information on historical and current numbers makes assessment of population trends impossible.
Red-tailed Hawk <i>Buteo jamaicensis</i> 14 subspecies	Throughout North America from central Alaska into the lowlands of Central America and over into the Caribbean.	Least Concern. CITES II.
Rufous-tailed Hawk <i>Buteo ventralis</i>	From SC Chile (Ñuble) and SC Argentina (Río Negro) S through Patagonia to Straits of Magellan.	VULNERABLE. CITES II. Not well known. Rare, and believed to have a small global population.
Common Buzzard <i>Buteo buteo</i> Six subspecies	Across Europe east into Russia and central Asia and down to South Africa	Least Concern. CITES II. The second or third most common raptor in Europe.
Mountain Buzzard <i>Buteo oreophilus</i>	Highlands of Ethiopia and south, patchily, to eastern Democratic Republic of Congo, Burundi, Tanzania, and Malawi.	NEAR THREATENED. CITES II. Due to limited and patchy distribution of habitat, especially to forest cutting.
Madagascar Buzzard <i>Buteo brachypterus</i>	Madagascar	Least Concern. CITES II. Only uncommon on deforested central plateau.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Long-legged Buzzard <i>Buteo rufinus</i> Two subspecies	SE Europe and Asia Minor E through Iran and Afghanistan to NW Mongolia and S to NW India (Garhwal); winters to NE Africa and N India. N Africa, from Mauritania to Egypt; Arabia.	Least Concern. CITES II. Population sizes and trends are little known.
Eastern Buzzard <i>Buteo japonicus</i> Three subspecies	Mongolia, China and Japan.	Least Concern. CITES II. Some taxonomists consider it a subspecies of the common buzzard (<i>Buteo buteo</i>)
Upland Buzzard <i>Buteo hemilasius</i>	S Siberia and Mongolia E to Manchuria, and S to C China and SE Tibet. Winters in N India (Kashmir to Sikkim), E China and Korea.	Least Concern. CITES II. Status very poorly known; apparently infrequent or rare throughout most of the breeding range and in winter quarters, although locally abundant, e.g. in Tibet. Generally rare, but locally common in extreme S Siberia and Mongolia. Possibly subject to fluctuations related to abundance of rodents.
Ferruginous Hawk <i>Buteo regalis</i>	S Canada from S Alberta to SW Manitoba, S through WC USA to N Texas; winters S to N Mexico.	Least Concern. CITES II. Local losses and apparent reduction of the entire population have led to calls for listing as threatened species; not listed because of insufficient supporting data.
Rough-legged Buzzard <i>Buteo lagopus</i> Four subspecies	N Eurasia, from Scandinavia E to the area of R Ob and R Yenisey; winters mainly in C Europe and C Asia. NE Asia E of R Ob and R Yenisey; winters S to C Asia, N China and Japan. Kamchatka; presumably winters in EC Asia. Alaska and N Canada; winters S to C & S USA.	Least Concern. CITES II.
Red-necked Buzzard <i>Buteo auguralis</i>	Sierra Leone E to Uganda and Ethiopia, and S to N Angola; outside breeding season, occurs in the Sahel zone.	Least Concern. CITES II. Vulnerable to degradation of woodland but uses many secondary habitats and probably benefits from cutting of rainforest.
Augur Buzzard <i>Buteo augur</i>	Ethiopia S to Zimbabwe and W to S Angola and N & C Namibia.	Least Concern. CITES II. Vulnerable to extensive afforestation of grassland habitat, or to lowered carrying capacity through overgrazing.
Archer's Buzzard <i>Buteo archeri</i>	Highlands of N Somalia.	Least Concern. CITES II. Status uncertain. Appears VULNERABLE, due to small range and possibility of rapid degradation of habitat by cutting of trees and overgrazing. Virtually unstudied; previous information lumped with related species <i>B. augur</i> and <i>B. rufofuscus</i> .
Jackal Buzzard <i>Buteo rufofuscus</i>	South Africa, S & C Namibia, Lesotho, Swaziland, S Mozambique and S Botswana.	Least Concern. CITES II.
Crested Eagle <i>Morphnus guianensis</i>	Guatemala and Honduras through Central America to Colombia and S to Paraguay, extreme NE Argentina (Misiones) and S Brazil; W of Andes, ranges S only to Serranía de Baudó (WC Colombia).	NEAR THREATENED. CITES II. 50% or more of the population has been lost in Mexico during the last century. This species is likely to be declining throughout its range.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Harpy Eagle <i>Harpyia harpyja</i>	S Mexico (from S Veracruz, Oaxaca and apparently Campeche) through Central America to Colombia, then E through Venezuela to the Guianas and S through E Bolivia and Brazil to extreme NE Argentina (Misiones).	NEAR THREATENED. CITES II. Declining due to habitat loss and to direct persecution.
New Guinea Eagle <i>Harpyopsis novaeguineae</i>	New Guinea	VULNERABLE. CITES II. Low population density and apparently low reproductive rate; few detailed observations by ornithologists, and biology poorly known.
Philippine Eagle <i>Pithecophaga jefferyi</i>	Larger islands of N & E Philippines, on Luzon, Leyte, Samar and Mindanao.	CRITICALLY ENDANGERED. CITES me. One of the world's most endangered birds. Global population calculated to be 180-500 mature individuals (250-750 individuals in total).
Black Eagle <i>Ictinaetus malaiensis</i> Two subspecies	N India and Nepal; also S India (W & E Ghats, Orissa) and Sri Lanka. Burma, SC & SE China (Yunnan, Fujian) and Taiwan, S through Indochina and Malay Peninsula to Greater Sundas, Sulawesi and Moluccas; possibly also Banggai and Sula Is.	Least Concern. CITES II. Main threat is loss of forests.
Lesser Spotted Eagle <i>Clanga pomarina</i>	C, E & SE Europe through Turkey and Caucasus to S Caspian lowlands; E limit not well known. Winters in S Africa and perhaps E Africa.	Least Concern. CITES II. Has disappeared from much of the former range in W, e.g. W Germany, or become very rare, e.g. E Germany, former Yugoslavia, and Greece.
Indian Spotted Eagle <i>Clanga hastata</i>	India (mainly N), Bangladesh, and perhaps also N Burma and Pakistan.	VULNERABLE. CITES II. Occurs in low densities throughout range and is suspected to be declining because of habitat loss and degradation.
Greater Spotted Eagle <i>Clanga clanga</i>	EC Europe E through Russia to S Ussuriland and Manchuria ; isolated populations in N Iran and NC India. Winters from S Europe, NE & E Africa and Middle East through N Pakistan to S & E China and Indochina.	VULNERABLE. CITES II. Total world population is certainly only some few thousand birds, but populations are very little studied. Very sensitive to habitat alterations, especially drainage of wetlands.
Tawny Eagle <i>Aquila rapax</i> Three subspecies	Pakistan, India, and S Nepal; possibly also Burma. Morocco and Algeria; S Arabia and tropical Africa S to N Zaire and N Kenya. S Kenya and S Zaire S to South Africa and W to Angola and Namibia.	VULNERABLE. CITES II. Formerly common in many areas, including national parks. Uncommon now in many regions. Scavenging habits make it susceptible to poisoning in Africa.
Steppe Eagle <i>Aquila nipalensis</i> Two subspecies	SE European Russia E to L Balkhash and E Kazakhstan, or perhaps to Tien Shan and Altai; winters in Middle East, Arabia and E & S Africa. Altai and Tibet E to Manchuria; winters in S Asia.	ENDANGERED. CITES II. Remains for the present one of the commonest eagle species of its size in the world. Not previously considered of conservation concern, indications of very rapid recent declines across much of range caused it to be listed as Endangered in 2015.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Spanish Eagle <i>Aquila adalberti</i>	C, W & S Spain; formerly more widespread, occurring in Portugal and Morocco.	VULNERABLE. CITES I. One of rarest of all birds of prey. Its population has experienced a gradual recovery.
Imperial Eagle <i>Aquila heliaca</i>	C Europe and Turkey E to Transbaikalia and Mongolia. Winters S to E Africa, Arabia, N India and E China.	VULNERABLE. CITES I. Rapid decline in Europe since World War II. International working group for species was formed and a conservation plan developed.
Wahlberg's Eagle <i>Hieraetus wahlbergi</i>	Mauritania E to Ethiopia and S to South Africa.	Least Concern. CITES II. Vulnerable to clearing of woodland; not known to be affected by pesticides, but accidental poisoning may result in local population declines.
Gurney's Eagle <i>Aquila gurneyi</i>	New Guinea, W Papuan Is and Aru Is; also Moluccas, where recorded on Morotai, Halmahera, Ternate, Bacan and Ambon, and recently on Seram.	NEAR THREATENED. CITES II. Apparently presents low population density; seldom encountered by ornithologists; biology unknown. Possibly threatened by deforestation in lowlands.
Golden Eagle <i>Aquila chrysaetos</i> Six subspecies	Iberian Peninsula, NW Africa and large Mediterranean islands E through Egypt, Asia Minor and Arabia to Caucasus and Iran. NW & C Europe E to W & C Siberia and Altai. Turkestan E to Manchuria, and S to Pakistan, Himalayas and SW China. Korea and Japan. W & C Siberia and Altai E to Kamchatka. North America, from Alaska S to Durango (WC Mexico), and E to Labrador, Quebec and New York.	Least Concern. CITES II. Threats to the species remain due to habitat change and the potential for lead poisoning, collision with wind turbines, electrocution and illegal killing.
Wedge-tailed Eagle <i>Aquila audax</i> Two subspecies	Australia, S New Guinea. Tasmania.	Least Concern. CITES II. Local declines in S through habitat disturbance in heavily settled and farmed areas, because intolerance to human activity leads to nest abandonment; has benefited elsewhere from thinning of tree cover, introduction of rabbit and provision of abundant carrion.
Verreaux's Eagle <i>Aquila verreauxii</i>	S Chad and W Sudan; from Israel, Egypt (Sinai) and SE Arabian Peninsula; Ethiopia to Somalia and thence S, with main range Kenya S to South Africa.	Least Concern. CITES II. Rugged terrain often last to be modified, but species declines where drought, overgrazing and hunting combine to reduce hyrax prey. Persecuted heavily in some areas of small-stock farming, and eliminated from parts of S Africa. . The most studied eagle in Africa.
Bonelli's Eagle <i>Aquila fasciata</i> Two subspecies	NW Africa and Iberian Peninsula E through the Mediterranean, SW Asia and Arabia to Afghanistan, Pakistan and India, and on through N Indochina to S China. Sumbawa, Timor, Wetar, Luang and probably Flores (Lesser Sunda Is).	Least Concern. CITES II. In decline in Europe, with some regional stabilization. Almost extinct in the former USSR; widely distributed but rare or uncommon on the Indian Subcontinent.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
African Hawk-eagle <i>Aquila spilogaster</i>	Senegambia E to Ethiopia and Somalia, and S to NE South Africa.	Least Concern. CITES II. VULNERABLE to cutting of woodland, and persecuted in many areas for attacks on poultry. Not known to be affected by pesticides.
Booted Eagle <i>Hieraetus pennatus</i>	SW Europe and NW Africa through E Europe, Asia Minor and Caucasus to C Asia, NE to Mongolia and L Baikal area, and SE to N India; also Cape Province (S South Africa) and perhaps Namibia. Winters mostly in Africa S of Sahara, and in S Asia, especially India.	Least Concern. CITES II. Population sizes not well known, and only fairly approximate estimates available; little information on trends, although apparently stable in general. Some negative factors affecting species are habitat degradation, decline in prey species, and human persecution; declining in Ukraine due to deforestation.
Pygmy Eagle <i>Hieraetus weiskei</i>	New Guinea	Least Concern.
Little Eagle <i>Hieraetus morphnoides</i>	Australia.	Least Concern. CITES II. Possibly affected locally, to minor degree, by extensive habitat clearance or by excessive loss of trees.
Ayres's Hawk-eagle <i>Hieraetus ayresii</i>	Sierra Leone E to Ethiopia and Somalia, then S to N Namibia, N Botswana and NE South Africa.	Least Concern. CITES II. Generally considered rare and sparsely distributed; apparently only reasonably common in woodlands of C Africa. VULNERABLE to clearing of woodland.
Rufous-bellied Eagle <i>Lophotriorchis kienerii</i> Two subspecies	NE India and Nepal; SW India (W Ghats) and Sri Lanka. Burma and Hainan through W, S & EC Indochina and Malay Peninsula to Greater Sundas, Bali, Philippines and Sulawesi.	NEAR THREATENED. CITES II. Widespread range, but rare in some regions and status is variable.
Martial Eagle <i>Polemaetus bellicosus</i>	Senegambia E to Ethiopia and S to South Africa.	VULNERABLE. CITES II. Widespread and common in some regions, but populations apparently in rapid decline due to poisoning, shooting, habitat loss, reduction in available prey, pollution, collisions with power lines and electrocution.
Black-and-white Hawk-eagle <i>Spizaetus melanoleucus</i>	E & S Mexico (Veracruz, Oaxaca) through Central America to Colombia, whence S on Pacific slope to W Ecuador, and E through N Venezuela to the Guianas, then S through E & S Brazil to NE Argentina and Paraguay; E Peru (Loreto) and N & E Bolivia (Beni to Santa Cruz).	Least Concern. CITES II. Wide geographic range, but a population trend that appears to be decreasing.
Long-crested Eagle <i>Lophaetus occipitalis</i>	Senegambia E to Ethiopia and S to N Namibia, N Botswana and E South Africa.	Least Concern. CITES II. VULNERABLE to degradation of woodland and drainage of wetlands, but compensates to some extent by using exotic plantations, small agricultural clearings and other secondary forest habitats.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Cassin's Hawk-eagle <i>Aquila africana</i>	Sierra Leone and Liberia E to W Uganda and E Zaire; also NW Angola.	Least Concern. CITES II. Recorded infrequently, but probably commoner than supposed, and large tracts of forest habitat still exist in Congo Basin. VULNERABLE to deforestation, but uses many secondary habitats; numbers probably reduced in many areas of W Africa.
Changeable Hawk-eagle <i>Nisaetus cirrhatus</i> Five subspecies	India S of Rajasthan and Gangetic Plain. Sri Lanka. Andaman Is. N India and Nepal through Burma, W & S Indochina and Malay Peninsula to Greater Sundas and W & SE Philippines (Palawan, Mindoro, Mindanao). Simeulue I (off W Sumatra).	Least Concern. CITES II. Widespread and apparently common to uncommon throughout extensive range; scarce in Java, due to deforestation.
Flores Hawk-eagle <i>Nisaetus floris</i>	Lesser Sundas	CRITICALLY ENDANGERED. CITES II. Restricted-range species endemic. Global population therefore is calculated to be 100–240 mature individuals.
Mountain Hawk-eagle <i>Nisaetus nipalensis</i> Two subspecies	Japan. Himalayas of India and Nepal E through S China and Hainan to E China and Taiwan, and S to N Indochina and N Malay Peninsula; recently Vietnam.	Least Concern. CITES II. Uncommon to rare; has undoubtedly suffered as result of extensive deforestation that still continues through most of range.
Legge's Hawk-eagle <i>Nisaetus kelaarti</i>	SW India (W Ghats) and Sri Lanka	Least Concern. CITES II. Uncommon to rare; has undoubtedly suffered as result of extensive deforestation that still continues through most of range.
Blyth's Hawk-eagle <i>Nisaetus alboniger</i>	S Burma (Tenasserim) and S Thailand through the Malay Peninsula to Sumatra and off-lying islands; N Borneo.	Least Concern. CITES II. Generally appears to be uncommon. Long term threat is loss of habitat, with extensive deforestation throughout much of range.
Javan Hawk-eagle <i>Nisaetus bartelsi</i>	Java.	ENDANGERED. CITES II. One of rarest of all raptors. Chronic loss of forest is a major factor in decline of species, along with exponential growth of human population in Java..
Sulawesi Hawk-eagle <i>Nisaetus lanceolatus</i>	Sulawesi and off-lying islands of Muna and Butung; Baggai Is (Peleng) and Sula Is.	Least Concern. CITES II. Currently considered near-threatened. Generally uncommon and local; status very poorly known.
Philippine Hawk-eagle <i>Nisaetus philippensis</i>	Philippines	ENDANGERED. CITES II. Deforestation for plantation agriculture, livestock and logging throughout the range is the chief threat.
Pinsker's Hawk-eagle <i>Nisaetus pinskeri</i>	C and S Philippine Islands	ENDANGERED. CITES II. Deforestation, primarily for replacement with plantations or livestock grazing, and logging are widespread problems throughout its extensive range, especially in lowlands.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Wallace's Hawk-eagle <i>Nisaetus nanus</i> Two subspecies	S Burma (Tenasserim) and S Thailand through the Malay Peninsula to Sumatra and Borneo. Nias I (off W Sumatra).	Rare. CITES II. Increasingly threatened by loss of lowland rainforest throughout range, owing to logging, conversion to plantations and agriculture, and major forest fires.
Black Hawk-eagle <i>Spizaetus tyrannus</i> Two subspecies	C Mexico S to Colombia, whence E of Andes to the Guianas, Trinidad and Brazil, and S to Paraguay and NE Argentina; recent records W of Andes in Ecuador and Peru (but not Colombia). E & S Brazil and extreme NE Argentina (Misiones).	Least Concern. CITES II. Fairly common in suitable habitat, but not in areas that have been heavily disturbed by agriculture. Declining in Mexico, due to habitat loss caused by cattle ranching, the timber industry and tourism.
Ornate Hawk-eagle <i>Spizaetus ornatus</i> Two subspecies	SE Mexico through Central America to W Colombia and W Ecuador. E Colombia E to the Guianas and Trinidad, and S through E Ecuador, NE Peru, N & E Bolivia and Brazil to Paraguay and N Argentina (Jujuy to Misiones).	NEAR THREATENED. CITES II. As an uncommon to rare large forest raptor with low productivity (at most one young every two years) and a dependence on extensive tracts of forest.
Crowned Eagle <i>Stephanoaetus coronatus</i>	Senegambia E to S Kenya and C Ethiopia, and S to Angola, NE Botswana and E South Africa.	NEAR THREATENED. CITES II. Vulnerable to deforestation and overhunting of prey animals, so now rare in many parts of W Africa.
Black-and-chestnut Eagle <i>Spizaetus isidori</i>	Coastal ranges of NW Venezuela (Carabobo) and NE Colombia (Santa Marta Mts), and S on subtropical slopes of Andes from Venezuela (Mérida) through Colombia, Ecuador and Peru to WC Bolivia and NW Argentina.	ENDANGERED. CITES II. Currently considered near-threatened. Rare and patchily distributed; status very poorly known.

FAMILY SAGITTARIIDAE (SECRETARYBIRD)

Secretary Bird <i>Sagittarius serpentarius</i>	Senegambia E to Ethiopia and Somalia, and S to South Africa.	ENDANGERED. CITES II. Afforestation of grasslands and intensive land use have eliminated habitat, with some compensation where bush has been cleared for grazing or croplands. Recent evidence suggests rapid decline across its huge range.
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FAMILY FALCONIDAE (FALCONS & CARACARAS)

Black Caracara <i>Daptrius ater</i>	E Colombia, S Venezuela and the Guianas S through Amazonia to E Peru, NE Bolivia and C Brazil (Maranhão, N Mato Grosso).	Least Concern. CITES II. Status very poorly known. Extensive range and catholic taste in terms of habitat and feeding habits suggest species relatively secure.
Red-throated Caracara <i>Ibycter americanus</i>	Extreme S Mexico (Chiapas) S to Colombia, S on Pacific slope to W Ecuador, and E of Andes to C Peru, N & E Bolivia and S Brazil (NW Paraná, Mato Grosso and São Paulo).	Least Concern. CITES II.
Carunculated Caracara <i>Phalcoboenus carunculatus</i>	Andes of Ecuador and SW Colombia.	Least Concern. CITES II. Probably relatively secure at present, as habitat not

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
		under significant pressure; no reports of persecution.
Mountain Caracara <i>Phalcoboenus megalopterus</i>	Andes from N Peru (Piura), through Bolivia to NW Argentina and C Chile (Cohagua).	Least Concern. CITES II.
White-throated Caracara <i>Phalcoboenus albogularis</i>	S Chile (Ñuble) and S Argentina (S Mendoza) S to Tierra del Fuego.	Least Concern. CITES II. Habitat is not subject to much disturbance, and no persecution reported, so presumably not a species of immediate concern.
Striated Caracara <i>Phalcoboenus australis</i>	Islets off extreme S South Africa.	NEAR THREATENED. CITES II. The global population is estimated by BirdLife International at 1500–4000 birds. Rare overall.
Crested Caracara <i>Caracara cheriway</i> Three subspecies	Tres Marías Is, off W Mexico. S USA (Florida; Texas to Arizona) through Central America to W Panama; Cuba, I of Pines. E Panama through C & E Colombia to the Guianas and S to N Peru and R Amazon; Aruba (Netherlands Antilles) E to Trinidad. C Peru and C Bolivia E to Amazon Delta and S to Tierra del Fuego; Falkland Is.	Least Concern. CITES II. Direct persecution continues in parts of the species' range.
Southern Caracara <i>Caracara plancus</i>	N & C Peru and C Bolivia E to Amazon Delta and S to Tierra del Fuego; Falkland Is.	Least Concern. CITES II.
Guadalupe Caracara <i>Caracara lutosa</i>	Island of Guadalupe in the Pacific Ocean west of Baja California.	EXTINCT. Within the matter of a decade the Guadalupe Caracara was eliminated from the island by persistent human persecution.
Yellow-headed Caracara <i>Milvago chimachima</i> Two subspecies	S Costa Rica and Panama (including Pearl Is) through Colombia to the Guianas and Trinidad and S (E of Andes) t theo Amazon. E Bolivia and Brazil S of Amazon to Paraguay, N Argentina and Uruguay.	Least Concern. CITES II.
Chimango Caracara <i>Milvago chimango</i> Two subspecies	N & C Chile and N & C Argentina through Paraguay to Uruguay and adjacent Brazil. S Chile (from near Concepción) and S Argentina (from R Chubut) S to Tierra del Fuego and Cape Horn. Introduced to Easter I (S Pacific).	Least Concern. CITES II.
Laughing Falcon <i>Herpetotheres cachinnans</i> Three subspecies	Mexico (S Sonora and San Luis Potosí) S to Honduras. Nicaragua to Colombia and S to Peru and C Brazil. E Bolivia and E Brazil (S to São Paulo) to Paraguay and N Argentina.	Least Concern. CITES II.
Spot-winged Falconet <i>Spizapteryx circumcincta</i>	E Bolivia (Santa Cruz) through Paraguay to N & C Argentina (S to Río Negro).	Least Concern. CITES II. Status virtually unknown; habitat is not amongst the most seriously devastated in the region. Single record from Paraguay.
Pygmy Falcon	NE DRCongo, South Sudan, S Ethiopia, Somalia, NE Uganda and Kenya to SC	Least Concern. CITES II.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Polihierax <i>semitorquatus</i>	Tanzania; S Angola and Namibia to NW South Africa	
White-rumped Pygmy-Falcon <i>Polihierax insignis</i> Three subspecies	W & C Burma, especially in the valley of R Irrawaddy. S Burma (Tenasserim) and Thailand. S Indochina, in S & C Laos, S Vietnam (S Annam, Cochinchina) and Kampuchea.	NEAR THREATENED. CITES II. Little known, but appears to be relatively secure at present; reasonably broad habitat tolerance suggests species may be adaptable to human pressure that is rather intense throughout most of range.
Collared Falconet <i>Microhierax caerulescens</i> Two subspecies	M.c. caerulescens - E Himalayas of India (Kumaon) and Nepal to NE India (N Assam). M.c. burmanicus - Burma E to C & S Indochina.	Least Concern. CITES II. Tolerance of disturbed habitats, along with a fairly varied diet, suggests species in no danger.
Black-thighed Falconet <i>Microhierax fringillarius</i>	S Burma (S Tenasserim) and S Thailand through Peninsular Malaysia to Sumatra, Borneo, Java and Bali.	Least Concern. CITES II. Tolerance of disturbed habitats, along with a fairly varied diet, suggests species in no danger.
White-fronted Falconet <i>Microhierax latifrons</i>	N Borneo, in extreme NE Kalimantan and Sabah.	NEAR THREATENED. CITES II. Research required, especially on breeding biology and population status.
Philippine Falconet <i>Microhierax erythrogenys</i> Two subspecies	Luzon, Mindoro, Negros and Bohol, Samar, Leyte and Cebu to Mindanao (Philippines).	Least Concern. CITES II.
Pied Falconet <i>Microhierax melanoleucus</i>	NE India (Assam) E across S China to Zhejiang, and S to N Laos and N & C Vietnam.	Least Concern. CITES II. Currently considered near-threatened
Lesser Kestrel <i>Falco naumanni</i>	SW Europe and N Africa E through E Europe, Asia Minor and Iran to Mongolia and N China (E to Shandong). Winters in Africa S of Sahara; also and irregularly in parts of S Asia.	Least Concern. CITES II. Drastic and apparently widespread decline in second half of 20th century
Eurasian Kestrel <i>Falco tinnunculus</i> Ten subspecies	NW Africa, Europe and Middle East E to EC Siberia, Afghanistan, and W and N Pakistan E in Himalayas to Nepal and Bhutan; in winter also E Africa and S and SE Asia. Somalia, coastal Kenya and Socotra. NE Africa and Arabia. Tibet E through N Indochina and C & S China to Japan; winters S to India, Malay Peninsula and Philippines and N Borneo. S India (Western Ghats, S Eastern Ghats) and Sri Lanka. Madeira and Canary Is. Cape Verde Is.	Least Concern. CITES II. Commonest diurnal raptor throughout much of range, at least in W Europe and NW Africa.
Rock Kestrel <i>Falco rupicolus</i>	N Angola to s Democratic Republic of the Congo, s Tanzania and South Africa	Least Concern. CITES II. Commonest diurnal raptor throughout much of range, at least in W Europe and NW Africa.
Madagascar Kestrel <i>Falco newtoni</i>	Madagascar and Aldabra Is; perhaps a rare vagrant to the Comoro Is.	Least Concern. CITES II. Possible race aldabranus included on CITES I.
Mauritius Kestrel <i>Falco punctatus</i>	Mauritius I, in WC Indian Ocean.	ENDANGERED. CITES I. Population decline was successfully supplemented by release of captive bred birds. Reduction of conservation management led to another

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
		decline. Now threatened by invasive flora encroachment, nest site competition and inbreeding.
Seychelles Kestrel <i>Falco araeus</i>	Islands of the Seychelles, W Indian Ocean. On Mahé and its satellites (St Anne, Cerf, Longue and probably Thérèse), Silhouette and North. Reintroduced to Praslin; vagrant to La Digue; and historically on Curieuse, Félicité, Marianne and possibly Sisters.	VULNERABLE. CITES II.
Reunion Kestrel <i>Falco duboisi</i>	Reunion I. Known only from subfossil bones.	EXTINCT
Spotted Kestrel <i>Falco moluccensis</i> Two subspecies	Moluccas, from Morotai and Halmahera S to Buru, Seram and Seram Laut. Sulawesi and surrounding small islands; Java and Lesser Sundas E to Tanimbar Is.	Least Concern. CITES II.
Australian Kestrel <i>Falco cenchroides</i> Two subspecies	Australia, Tasmania, Lord Howe I, Norfolk I and Christmas I (Indian Ocean). Winters irregularly from Lesser Sundas and Moluccas through Aru Is and S New Guinea; occasionally to New Zealand. Montane WC New Guinea.	Least Concern. CITES II.
Greater Kestrel <i>Falco rupicoloides</i> Three subspecies	N & E Ethiopia, NW Somalia. NE Tanzania, Kenya. Namibia, Botswana, SW Zambia and Zimbabwe to South Africa.	Least Concern. CITES II.
American Kestrel <i>Falco sparverius</i> 17 subspecies	Alaska and Canada to Tierra del Fuego, Argentina except Amazon river basin	Least Concern. CITES II. No reliable estimates for most of the Neotropical range. Decreasing in parts of SE USA, e.g. Florida (with entire population of race paulus), because of habitat alterations; scarce or decreasing in some other regions of USA, e.g. Texas and Arkansas.
Fox Kestrel <i>Falco alopex</i>	Senegambia E through N Cameroon and Sudan to Red Sea coast of Ethiopia, S to NE Zaire, NW Kenya and NE Uganda.	Least Concern. CITES II. Little studied and may be vulnerable through limited and localized breeding range on rocky hills, although these eminences are usually less subject to habitat degradation than the surrounding savanna.
Gray Kestrel <i>Falco ardosiaceus</i>	Senegambia E to Ethiopia and S through W Kenya and W Tanzania to Angola, N Zambia, N Namibia and NW Botswana.	Least Concern. CITES II.
Dickinson's Kestrel <i>Falco dickinsoni</i>	SC Africa, from Angola E through S Zaire to SC Tanzania (including Zanzibar and Pemba), and S to N Namibia, N Botswana and NE South Africa.	Least Concern. CITES II.
Banded Kestrel <i>Falco zoniventris</i>	Madagascar	Least Concern. CITES II. Currently considered near-threatened. Locally common but habitat limited and declining through deforestation. Not more than 1000 pairs predicted as total population, but able

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
		to exist in secondary habitats in some areas. .
Red-necked Falcon <i>Falco chicquera</i> Three subspecies	SE Iran E through Pakistan and India to Nepal and Bangladesh. Senegambia E to Ethiopia and S Somalia, then S to Zambia, Malawi and N Mozambique. S of R Zambezi, from Zimbabwe and S Mozambique W to Botswana, Namibia and S Angola, and S to N South Africa.	Least Concern. CITES II.
Red-footed Falcon <i>Falco vespertinus</i>	E Europe, from Estonia and Hungary, E through NC Asia to extreme NW China and upper R Lena. Winters mainly in SW Africa, from Angola, Namibia and N South Africa through Botswana to Zimbabwe and Zambia.	NEAR THREATENED. CITES II. Marked decline, particularly in S of breeding range, probably due, directly or indirectly, to pesticide use.
Amur Falcon <i>Falco amurensis</i>	Transbaikalia (SE Siberia) and NE Mongolia E to Amurland and S to N & E China and N Korea; has bred in Assam (NE India). Winters in S Africa, mainly from Malawi to Transvaal.	Least Concern. CITES II. Size of population not known; may be stable; at least locally common, e.g. SE of L Baikal and in Mongolia.
Eleonora's Falcon <i>Falco eleonorae</i>	Islands and rocky coasts from Canary Is and NW Morocco E through the Mediterranean to Lemnos, N Sporades, Cyclades, Dodecanese, Crete and Cyprus. Winters mainly in Madagascar, but also in E Africa and Mascarene Is.	Least Concern. CITES II.
Sooty Falcon <i>Falco concolor</i>	E Libya through Egypt, Israel and Jordan to coasts of Red Sea and Persian Gulf, E to SW Pakistan. Winters in Madagascar, and also in SE Africa.	VULNERABLE. CITES II. Disturbance of nest sites by humans and trapping of migrant falcons are local threats in some areas; also possible that events on the wintering grounds are contributing to population declines.
Merlin <i>Falco columbarius</i> Nine subspecies	Iceland. N Eurasia, from Faroes E to C Siberia. Siberia, E of R Yenisey to R Kolyma. Soviet Far E, is Least Concern including Sakhalin I. Steppes of Asia, from near Aral Sea to Altai Mts. Mountains of C Asia, in Turkestan, E Russia, NW China and Mongolia. Pacific coast of North America, from Alaska and British Columbia to N WashiLeast Concern. North America, from Alaska and British Columbia to N WashiLeast Concern. Great Plains of North America, from C Alberta S to Wyoming.	Least Concern. CITES II. Status of Asian races not satisfactorily documented.
Eurasian Hobby <i>Falco subbuteo</i> Two subspecies	NW Africa and Europe E through C Asia and N China to Kamchatka, Sakhalin and N Japan; winters in C & S Africa and S Asia. S & E China, S from QinLing Mts (S Shaanxi); possibly also N & E Burma and N Indochina.	Least Concern. CITES II. Population levels and trends not well known
African Hobby <i>Falco cuvierii</i>	Senegambia E to Ethiopia and S to SE South Africa.	Least Concern. CITES II.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Oriental Hobby <i>Falco severus</i>	NW India and Nepal E to Yunnan, Guangdong and Hainan (S China), and S through Burma, Thailand and Indochina to Philippines, Java and Sulawesi, whence E through New Guinea to Solomon Is. Himalayan birds winter S to S India and Sri Lanka.	Least Concern. CITES II.
Australian Hobby <i>Falco longipennis</i> 2 subspecies	Lesser Sundas, from Lombok to Timor. Australia and Tasmania; outside breeding season occurs N to New Guinea, New Britain and Moluccas.	Least Concern. CITES II. Population probably stable; has benefited from introduced prey. Eggshell thickness significantly reduced by DDT use (now ceased); local breeding depression likely in S agricultural areas.
New Zealand Falcon <i>Falco novaeseelandiae</i>	New Zealand, Stewart I, Auckland Is.	NEAR THREATENED. CITES II. Population declined through habitat destruction, persecution and effects of DDT, but now stable at 3000-4500 breeding pairs.
Brown Falcon <i>Falco berigora</i> Three subspecies	C & E New Guinea and coastal N Australia. E, C & N Australia and Tasmania. SW & CW Australia.	Least Concern. CITES II.
Gray Falcon <i>Falco hypoleucus</i>	C & NW Australia	VULNERABLE. CITES II. Despite its very large range, it occurs at very low densities, breeding only in warmer areas.
Black Falcon <i>Falco subniger</i>	C & E Australia.	Least Concern. CITES II.
Aplomado Falcon <i>Falco femoralis</i> Three subspecies	S USA (Arizona, New Mexico and Texas) S locally through Mexico to Guatemala. Nicaragua and Belize through Panama to Colombia, E to the Guianas, and S through E Bolivia and Brazil to Argentina, extending S to Tierra del Fuego. Temperate zones of SW Colombia, Ecuador, Peru and W Bolivia S to N Chile and NW Argentina (Tucumán).	Least Concern. CITES II. Virtually eliminated for poorly understood reasons in S USA and N Mexico;
Bat Falcon <i>Falco rufigularis</i> Three subspecies	N Mexico (from Sonora E to Tamaulipas) S through Central America to Colombia, and W of Andes S to Ecuador. E Colombia E to the Guianas and Trinidad, and S to S Brazil and N Argentina. Tableland of C Brazil (Piauí S to Mato Grosso, São Paulo and Paraná) and adjacent Bolivia, Paraguay and N Argentina.	Least Concern. CITES II.
Orange-breasted Falcon <i>Falco deiroleucus</i>	S Mexico S through Central America to Colombia, E to the Guianas and Trinidad, and E of Andes S through Brazil and Bolivia to Paraguay and N Argentina.	NEAR THREATENED. CITES II. Based on declines throughout range and Amazonia deforestation projections
Lanner Falcon <i>Falco biarmicus</i> Five subspecies	S Italy and Sicily E to Armenia and Azerbaijan, then S to Lebanon. NW Africa, from Mauritania to Morocco and Tunisia. NE Africa, including Egypt and N Sudan, to Arabia, Israel and Iraq. Senegal and Ghana E	Least Concern. CITES II.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
	to Ethiopia and Somalia, and S to Uganda and N Zaire. Angola, S Zaire and Kenya S to South Africa.	
Laggar Falcon <i>Falco jugger</i>	Pakistan E throughout most of India and Nepal to Assam and N Burma; absent from extreme S India. Also occurs locally in S Afghanistan and possibly SE Iran.	NEAR THREATENED. CITES II. Uncommon to rare and local. Population declines noted in Pakistan and W India probably due to reduction of prey available as result of extensive cultivation.
Saker Falcon <i>Falco cherrug</i> Two subspecies	C Europe E through SW Russia, Ukraine and Iran to R Yenisey and foothills of Altai; winters from Europe and NE Africa E to NW India. SE Siberia, N Mongolia and N China S to W & C China; winters from Iran E to Nepal and NW India, Tibet and C China.	ENDANGERED. CITES II. Numbers and population trends not well known, particularly over extensive Asian breeding range, where bulk of population occurs
GyrFalcon <i>Falco rusticolus</i>	Circumpolar, occupying Arctic regions of Eurasia, North America, Greenland and Iceland; some birds move farther S for winter.	Least Concern. CITES I.
Peregrine Falcon <i>Falco peregrinus</i> 19 subspecies	Arctic tundra of North America, from Alaska to Greenland. North America S of tundra to N Mexico, except NW Pacific Coast. Coastal W North America from WashiLeast Concernon N to W Alaska, and W through Aleutian and Commander Is; possibly also coastal Kamchatka and Kuril Is. W South America, from Ecuador (locally) S through Bolivia and N Argentina to S Chile, Tierra del Fuego and Falkland Is. NE Siberia S to Kamchatka and Japan. Vulcano Island and possibly Bonin Is. Tundra of Eurasia, from Lapland E to NE Siberia, roughly to the region of R Yana and R Indigirka. Eurasia S of tundra and N of Pyrenees, Balkans and Himalayas, from British Is E to Amurland and Ussuriland in the Russian Far East. S France, Spain and coastal N Africa E through the Mediterranean to Caucasus. Asia, from E Iran to Mongolia. Canary Is E through inland N Africa to Iraq, and probably Iran. Cape Verde Is. Africa S of Sahara, and N into extreme S Morocco. Madagascar and Comoro Is. Pakistan, India and Sri Lanka E to SE China. Indonesia and Philippines E to New Guinea and Bismarck Archipelago. Vanuatu and New Caledonia (race uncertain) E to Fiji. Australia (except SW). SW Australia.	Least Concern. CITES I.
Prairie Falcon <i>Falco mexicanus</i>	SW Canada through W & WC USA to N Mexico; winters to EC USA and NC Mexico.	Least Concern. CITES II. Widely used in Falconry, with no apparent effect on population.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Taita Falcon <i>Falco fasciinucha</i>	S Ethiopia through Kenya, Uganda, Tanzania, Malawi, E Zambia, SW Mozambique and Zimbabwe to NE South Africa.	VULNERABLE. CITES II. Extremely localized and easily overlooked throughout most of its wide range, e.g. in Kenya, where not recently recorded from Taita (Teita) Hills, where originally collected.
Barred Forest-Falcon <i>Micrastur ruficollis</i> Six subspecies	S Mexico to Nicaragua. Costa Rica and Panama to W Colombia and W Ecuador. Colombia and Venezuela, in E Andean foothills, S perhaps to Bolivia. S Venezuela, the Guianas and Amazonia. S of Amazonia in Brazil, Paraguay and NC & NE Argentina. NW Argentina, in subtropical forests.	Least Concern. CITES II.
Plumbeous Forest-Falcon <i>Micrastur plumbeus</i>	SW Colombia (Cauca, Nariño) and NW Ecuador (Esmeraldas).	VULNERABLE. CITES II. Suffering from deforestation and degradation of habitat within limited range, both in Colombia and Ecuador
Lined Forest-Falcon <i>Micrastur gilvicollis</i>	E Colombia through S Venezuela to the Guianas, and S throughout Amazonia.	Least Concern. CITES II.
Cryptic Forest-Falcon <i>Micrastur mintoni</i>	Locally in E & S Amazonian Brazil (Pará and W Maranhão S to Rondônia) and NE Bolivia (N Santa Cruz); also E Brazil	Least Concern. Probably fairly common, although easily overlooked
Slaty-backed Forest-Falcon <i>Micrastur mirandollei</i>	Costa Rica, Panama and Colombia (including W slope of Andes) through the Guianas and Amazonia to E Brazil (Espírito Santo).	Least Concern. CITES II. Status very poorly known, perhaps in part because it is so easily confused with other species. Widely distributed, but everywhere rare. One of rarest forest raptors in French Guiana, with estimated minimum average density of only four individuals/10,000 ha of forest.
Collared Forest-Falcon <i>Micrastur semitorquatus</i> Two subspecies	NC Mexico (Sinaloa to Tamaulipas) S through Central America to N & W Colombia and Ecuador. E Colombia E to the Guianas, and S through E Peru, N & E Bolivia and Brazil to Paraguay and N Argentina.	Least Concern. CITES II. Not uncommon over vast range; secretive nature presumably reduces threat from hunters.
Buckley's Forest-Falcon <i>Micrastur buckleyi</i>	Amazonian reaches of Ecuador and Peru; single record from SE Colombia; apparent recent record from Brazil (R Juruá, Acre) has now been withdrawn.	Insufficiently known. CITES II. Status virtually unknown. Secretive nature of genus and sympatry with very similar <i>M.semitorquatus</i> render estimates of population levels very difficult.
FAMILY TYTONIDAE (BARN OWLS)		
Sooty Owl <i>Tyto tenebricosa</i> Three subspecies	New Guinea and Yapen I. E and SE Australia	Least Concern. CITES II
Australian Masked Owl <i>Tyto novaehollandiae</i> Six subspecies	S New Guinea, in S Trans-Fly region, from the Merauke area to Tarara and Daru I. Melville Is and Bathurst Is. NE Cape York Peninsula to NE Queensland, N Australia SW Western Australia, E to Victoria, and N to NE to Queensland. Tasmania and Marie Is	Least Concern. CITES II

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Golden Masked Owl <i>Tyto aurantia</i>	New Britain	VULNERABLE. CITES II. Restricted range species. Considered rare with few field records and sightings.
Seram Masked Owl <i>Tyto almae</i>	Seram, in Moluccas	Data Deficient. Restricted range species.
Lesser Masked Owl <i>Tyto sororcula</i> Two subspecies	Buru, also Seram Tanimbar Is.	Least Concern. CITES II. Restricted-range species.
Manus Masked Owl <i>Tyto manusi</i>	Manus Is and Admiralty Is.	VULNERABLE. CITES II. Restricted range species. No recent records.
Taliabu Masked Owl <i>Tyto nigrobrunnea</i>	Taliabu, in Sula Is.	VULNERABLE. CITES II. Restricted range species. Presumed to be scarce.
Minahassa Masked Owl <i>Tyto inexpectata</i>	N & NC Sulawesi	VULNERABLE. CITES II. Restricted-range species, probably declining at a moderate rate.
Sulawesi Owl <i>Tyto rosenbergii</i> Two subspecies	Sulawesi and Sangihe. Banggai Is.	Least Concern. CITES II. Widespread but generally uncommon in Sulawesi.
Australian Grass Owl <i>Tyto longimembris</i> Six subspecies	India, S Nepal, Bangladesh, Myanmar, Sulawesi, Tukangbesi, Is., Flores, Sumba, and N, C & E Australia. SE China and Vietnam. Taiwan. Philippines. W New Guinea. E. New Guinea	Least Concern. CITES II. Rare to very rare throughout most of range.
African Grass Owl <i>Tyto capensis</i>	Cameroon highlands; Congo; N. Angola E to S Uganda and W Kenya, W Tanzania and Zambia to W Mozambique and E South Africa.	Least Concern. CITES II.
Barn Owl <i>Tyto alba</i> 29 subspecies	North America, Europe, Africa, South America, Australia, Malaysia	Least Concern. CITES II. Status of many populations uncertain particularly those on islands. Locally common and expanding in some areas due to suitable habitat availability and artificial nest sites.
Andaman Masked Owl <i>Tyto deroeptorffi</i>	S Andaman Islands	Not listed. Range restricted. Thought to be a subspecies of Barn owl by other authors.
Ashy-faced Owl <i>Tyto glaurops</i>	Hispaniola	Least Concern. CITES II. Restricted range species.
Red Owl <i>Tyto soumagnei</i>	N & E Madagascar	VULNERABLE. CITES I. Restricted range species. Intensive research and conservation urgently required.
Oriental Bay Owl <i>Phodilus badius</i> Four subspecies	Sikkim & NE India, N & C Myanmar, Thailand E to Vietnam and SE China SW India C & S Sri Lanka Malay Peninsula and Greater Sundas Natuna Is. Belitung I.	Least Concern. CITES II.
Sri Lanka Bay Owl <i>Phodilus assimilis</i> Two subspecies	Anaimalai–Nelliampathy Hills, W Ghats, in SW India. C and S Sri Lanka.	Least Concern. CITES II.
Congo Bay Owl	Itombwe (Mitumba) Massif, extreme E DRCongo; also probably adjacent SW	ENDANGERED. CITES II. Restricted-range species. Rare and elusive. Species

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
<i>Phodilus prigoginei</i>	Rwanda (Nyungwe Forest) and NW Burundi (near Teza).	almost surely declining as a result of forest clearing for agriculture and livestock grazing; other threats include mining and hunting
FAMILY STRIGIDAE (TYPICAL OWLS)		
White-fronted Scops-owl <i>Otus sagittatus</i>	S Myanmar (Tenasserim), S Thailand and Malay Peninsula; possibly Sumatra (status uncertain).	VULNERABLE. CITES II. Described as rare or very rare and declining throughout its range, but very poorly known. Extensive lowland deforestation is considered the greatest threat to survival.
Andaman Scops-owl <i>Otus balli</i>	Andaman Is.	Least Concern. CITES II. Restricted-range species: present in Andaman Islands EBA. Currently considered near-threatened.
Reddish Scops-owl <i>Otus rufescens</i> Two subspecies	S peninsular Thailand and peninsular Malaysia. Sumatra, Bangka, Java and Borneo	NEAR THREATENED. CITES II. Rare throughout range, and probably declining in most parts, but elusive and little known.
Serendib Scops-owl <i>Otus thilohoffmanni</i>	SW Sri Lanka.	ENDANGERED. Known from a single collected specimen and a few field observations. Estimated global population in 2013 of 150–700 individuals, or possibly somewhat more, as this species is very unobtrusive; thought to be undergoing decline owing to habitat loss and degradation.
Sandy Scops-owl <i>Otus icterorhynchus</i> Two subspecies	Liberia, Ivory Coast and Ghana. S Cameroon, N Congo and N & E Zaire; probably also N Gabon.	Least Concern. CITES II. Appears to be rare throughout its fragmented range; only 4 known specimens, 2 from each of Ghana and Cameroon. Assessment of status is difficult, owing to its poorly documented distribution and biology.
Sokoke Scops-owl <i>Otus ireneae</i>	Sokoke-Arabuko Forest in SE Kenya, and NE Tanzania (lowlands N of E Usambara Mts).	ENDANGERED. CITES I. Forest destruction the major threat. Conservation regulations were ignored perhaps because of lack of funds for enforcement.
Flores Scops-owl <i>Otus alfredi</i>	Flores I, in Lesser Sundas.	ENDANGERED. CITES II. Restricted-range species. The little information known about this species is from original notes on the first three specimens, collected late in 19th century
Mountain Scops-owl <i>Otus spilocephalus</i> Eight subspecies	N Pakistan E to C Nepal. C Nepal E to Arunachal Pradesh and Myanmar. N Thailand and Laos to SE China and Hainan. Taiwan. S Thailand to S Vietnam. Malay Peninsula. Sumatra. Borneo.	Least Concern. CITES II. Fairly adaptable; the fact that species will occupy areas of dense regenerating growth at disturbed forest edges should aid its survival.
Rajah Scops-owl <i>Otus brookii</i> Two subspecies	Sumatra. Borneo. Specimens collected in E Java (Ijen) assigned to this species, but identity disputed; may belong to another species of <i>Otus</i> .	Least Concern. CITES II. Restricted range species: present in Bornean Mountains EBA and Sumatra and Peninsular Malaysia EBA. Considered rare; possibly more

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
		widespread, but few observations within its known range.
Javan Scops-owl <i>Otus angelinae</i>	Java.	VULNERABLE. CITES II. Restricted range species: present in Java and Bali Forests EBA.
Mentawai Scops-owl <i>Otus mentawi</i>	Mentawai Is (Siberut to S Pagai), off W Sumatra.	NEAR THREATENED. CITES II. Status poorly known; appears to be rare and rather patchily distributed, but possibly locally common.
Indian Scops-owl <i>Otus bakkamoena</i> Four subspecies	W and S Pakistan; possibly SE Iran; old record from Oman probably erroneous. NW India to lowland Nepal. C India, E to about S West Bengal. SW & SE India and Sri Lanka.	Least Concern. CITES II.
Collared Scops-owl <i>Otus lettia</i> Five subspecies	E Nepal, E India (West Bengal) and Bangladesh, E to Assam, Myanmar, Thailand (except S peninsula) and Indochina. SE China. Sakhalin, Ussuriland and NE China. Taiwan. Hainan I.	Least Concern. CITES II.
Giant Scops-owl <i>Otus gurneyi</i>	EC & S Philippines: Samar, Dinagat, Siargao and Mindanao; report of former presence on Marinduque not confirmed.	VULNERABLE. CITES I. Restricted-range species. Appears to be rare in most of range, and thought to be a species that occurs at naturally low densities.
Sunda Scops-owl <i>Otus lempiji</i> Five subspecies	S peninsular Thailand below the Isthmus of Kra. Malay Peninsula (except S), S Sumatra, Bangka, Belitung, Java, Bali, N Natuna Is, Borneo (except N). N & C Sumatra. N Borneo. Kangean Is.	Least Concern. CITES II. Would appear to benefit from conversion of forested land to agricultural uses, enabling possible range expansion.
Japanese Scops-owl <i>Otus semitorques</i> Three subspecies	Sakhalin, Ussuriland and NE China. Korean Peninsula, Jeju I, S Kuril Is (Urup S to Kunashir), and Japan from Hokkaido S to Yakushima, including Sado, Tsushima and Goto Is. S Izu Is (Hachijo) and S Ryukyu Is (Okinawa to Iriomote).	Least Concern. CITES II. Race <i>preyeri</i> poorly known; although reported as abundant in Iriomote, this not substantiated by later observations. No obvious threats, and appears able to live in proximity to man.
Wallace's Scops-owl <i>Otus silvicola</i>	Sumbawa and Flores, in Lesser Sundas	Least Concern. CITES II. Restricted-range species. Currently considered near-threatened.
Palawan Scops-owl <i>Otus fuliginosus</i>	Palawan Is, in SW Philippines.	NEAR THREATENED. CITES II. Restricted-range species: present in Palawan EBA. Said to be very rare.
Philippine Scops-owl <i>Otus megalotis</i>	Luzon, Marinduque and Catanduanes, in N Philippines.	Least Concern. CITES II. Few reliable data.
Everett's Scops-owl <i>Otus everetti</i>	Samar, Biliran, Leyte, Bohol, Mindanao and Basilan (EC & S Philippines).	Least Concern. CITES II.
Negros Scops-owl <i>Otus nigrorum</i>	Panay and Negros, in C Philippines.	VULNERABLE. CITES II. Dire need exists to estimate numbers in the fragments of habitat that remain, and to restore and protect forest habitats.
Mindoro Scops-owl <i>Otus mindorensis</i>	Mindoro, in NC Philippines.	NEAR THREATENED. CITES II. Restricted-range species

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Moluccan Scops-owl <i>Otus magicus</i> Seven subspecies	Morotai, Ternate, Halmahera, Kasiruta, Bacan, Obi Is, Seram, Ambon, Buru, Lombok, Sumbawa, Flores, Lomblen, Wetar.	Least Concern. CITES II. Considered common on Buru and uncommon on Sumbawa; no data on status from rest of range. Forest destruction is probably a threat in the long term.
Rinjani Scops-owl <i>Otus jolandae</i>	N Lombok (Lesser Sundas).	NEAR THREATENED. Precise distribution needs to be established, as well as habitat tolerance and other ecological requirements.
Mantanani Scops-owl <i>Otus mantananensis</i> Four subspecies	Banton, Sibuyan, Romblon, Tablas, Tres Reyes and Semirara, in C Philippines. S Calamian Is (Dicabaito, Linapacan) and Cuyo I. Mantanani I, off N Borneo, and islands off S coast of Palawan. Sibutu and Tumindao, in SW Sulu Is.	NEAR THREATENED. CITES II. Restricted-range species.
Ryukyu Scops-owl <i>Otus elegans</i> Four subspecies	Throughout Ryukyu Is (Nansei Shoto), S Japan. Daito Is (Minami-daito-jima). Lanyu I, off SE Taiwan. Batan Is, Sabtang and Calayan, off N Philippines.	NEAR THREATENED. CITES II. Restricted-range species.
Sulawesi Scops-owl <i>Otus manadensis</i> Three subspecies	Banggai Is (Peleng, perhaps also Labobo), E of Sulawesi.	VULNERABLE. CITES II. A clear need exists to obtain more information on numbers, habitat preferences, demography and general ecology.
Sangihe Scops-owl <i>Otus collaris</i>	Sangihe I, N of Sulawesi.	Least Concern. CITES II.
Siau Scops-owl <i>Otus siaoensis</i>	Siau I, N of Sulawesi	CRITICALLY ENDANGERED. CITES II. Restricted-range species. Known only from the holotype, collected in 1866.
Sula Scops-owl <i>Otus sulaensis</i>	Sula Is (Taliabu, Seho, Mangole, Sanana), E of Sulawesi.	NEAR THREATENED. CITES II. Loss and degradation of forests greatest threat.
Biak Scops-owl <i>Otus beccarii</i>	Biak Is, in Geelvink Bay (NW New Guinea)	VULNERABLE. CITES II. Very poorly known
Simeulue Scops-owl <i>Otus umbra</i>	Simeulue Is, off NW Sumatra	NEAR THREATENED. CITES II.
Enggano Scops-owl <i>Otus enganensis</i>	Enggano Is, off SW Sumatra	NEAR THREATENED. CITES II.
Nicobar Scops-owl <i>Otus alius</i>	Great Nicobar Is, in extreme S Nicobar Is.	NEAR THREATENED. CITES II. Known from two specimens obtained in 1966 and 1977, one mist-netted bird and a few photos.
Arabian Scops-owl <i>Otus pamela</i>	SW Saudi Arabia, Yemen, Oman	Least Concern. CITES II.
Eurasian Scops-owl <i>Otus scops</i> Six subspecies	France, Italy and C Mediterranean islands E to Volga R, S to N Greece, N Turkey and Transcaucasia; intergrades with puhellus. Volga R E to L Baikal, S to Altai and Tien Shan. Iberia, Balearic Is, NW Africa (NC Morocco to Tunisia). S Greece and S Asia	Least Concern. CITES II.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
	Minor, S to C Israel and Jordan. Cyprus. Iraq and Iran (and perhaps this race SE Turkey) E to NW Pakistan.	
Pemba Scops-owl <i>Otus pembaensis</i>	Pemba I, off N Tanzania	VULNERABLE. CITES II. Restricted-range species. Conversion of clove plantations to open farmland a serious threat.
Sao Tome Scops-owl <i>Otus hartlaubi</i>	São Tomé I; report of possible presence on Príncipe.	VULNERABLE. CITES II. Restricted-range species. Shuns shaded cocoa and coffee plantations. Studies needed.
African Scops-owl <i>Otus senegalensis</i> Three subspecies	Southern Mauritania east to Eritrea and Somalia, and south (except in southeast Kenya) to southeastern South Africa. Endemic to Annobón Island (Pagalu), in the southern Gulf of Guinea. Southeast Kenya (from the lower River Tana to Lali Hills).	Least Concern. CITES II. Secretive habits make any accurate assessment of numbers difficult. Annobón subspecies CRITICALLY ENDANGERED.
Pallid Scops-owl <i>Otus brucei</i> Four subspecies	E Aral Sea to Kirghizia and Tajikistan. S Turkey, N Syria, N Iraq, Turkmeniya, Uzbekistan and N Afghanistan. S Tajikistan and W China (E to C Tarim Basin) S to E Afghanistan and N Pakistan. Israel (extinct as breeder), C & E Iraq, S Iran, Oman, S Afghanistan, W Pakistan.	Least Concern. CITES II. Status not well known. May be reasonably common in much of range, but few data. No known threats.
Mindanao Scops-owl <i>Otus mirus</i>	Mindanao I, in S Philippines.	NEAR THREATENED. CITES II. Restricted-range species.
Luzon Scops-owl <i>Otus longicornis</i>	Luzon, in N Philippines.	NEAR THREATENED. CITES II. Restricted-range species.
Moheli Scops-owl <i>Otus moheliensis</i>	Mohéli (Mwali), in Comoro Is.	ENDANGERED. CITES II. Up-to-date information on status, population trends, ecology and threats is urgently needed.
Comoro Scops-owl <i>Otus pauliani</i>	Mt Karthala, on Grand Comoro (Ngazidja), in Comoro Is.	ENDANGERED. CITES II. Up-to-date information on status, population trends, ecology and threats is urgently needed. Proposal for a nature reserve on Mt. Karthala should be implemented immediately.
Seychelles Scops-owl <i>Otus insularis</i>	Mahé I, in Seychelles. Unconfirmed reports also from Praslin and Félicité.	ENDANGERED. CITES II. Previously declared EXTINCT until rediscovery in 1959.
Oriental Scops-owl <i>Otus sunia</i> Nine subspecies	N Pakistan E to Bangladesh, and N India. S India. Sri Lanka. S China (Yunnan E to Guangdong). SE Siberia, Sakhalin, NE China, N Korea. Japan S to C Kyushu. Myanmar, N and W Thailand and Indochina.	Least Concern. CITES II. Varies in abundance regionally: scarce and very local in Pakistan, and scarce but more widespread in Sri Lanka, but fairly common in most of the Indian Subcontinent; uncommon in Thailand; uncommon in Japan, but said to be commonest strigid in SE Siberia.
Socotra Scops-owl <i>Otus socotranus</i>	Socotra	Least Concern. CITES II. Restricted-range species.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Anjouan Scops-owl <i>Otus capnodes</i>	Anjouan (Ndzuani), in Comoro Is.	ENDANGERED. CITES II. Restricted-range species. Rediscovered in 1992.
Mayotte Scops-owl <i>Otus mayottensis</i>	Maore (Mayotte), in Comoro Is.	Least Concern. CITES II.
Reunion Scops-owl <i>Otus grucheti</i>	Reunion I.	EXTINCT. Known only from fossil remains.
Rodrigues Scops-owl <i>Otus mirusvorus</i>	Rodrigues I (Mascarene Is).	EXTINCT in 1726.
Mauritius Scops-owl <i>Otus sauzieri</i>	Mauritius.	EXTINCT around 1837.
Madagasy Scops-owl <i>Otus rutilus</i>	N and E Madagascar	Least Concern. CITES II.
Torotoroka Scops-owl <i>Otus madagascariensis</i>	Western Madagascar	Least Concern. CITES II.
Flammulated Owl <i>Psiloscops flammeolus</i>	Breeds from SW Canada (SC British Columbia) S to NW & SW USA and NE, W & C Mexico (and E in highlands to S Puebla, and NE Oaxaca). Winters to C & S Mexico and Guatemala, possibly El Salvador.	Least Concern. CITES II. Common in North America, but considered sensitive in the USA and VULNERABLE in Canada.
Puerto Rican Screech-owl <i>Megascops nudipes</i> Two subspecies	Puerto Rico. Vieques I off E Puerto Rico (1 record, probably extinct), and unconfirmed report from nearby Culebra I; also Virgin Is (St Thomas, St John, Tortola, Virgin Gorda, St Croix, probably Guana I).	Least Concern. CITES II. Restricted-range species: present in Puerto Rico and the Virgin Islands EBA. Race newtoni is extremely rare, possibly extinct.
Bare-shanked Screech-owl <i>Megascops clarkii</i>	Costa Rica S to extreme NW Colombia.	Least Concern. CITES II. Restricted-range species. Considered uncommon; little known about population level.
Whiskered Screech-owl <i>Megascops trichopsis</i> Three subspecies	SE Arizona to N Mexico (Sonora and Chihuahua). Highlands of C Mexico (from about Durango S to Veracruz, Oaxaca and Chiapas). SE Mexico (Chiapas) to NC Nicaragua.	Least Concern. CITES II. Population or trends little known, but clearly dependent on the future of fairly dense montane forest within its range.
White-throated Screech-owl <i>Megascops albogularis</i> Six subspecies	Sierra de Perijá, in NW Venezuela. Andes of W Venezuela. C & W Andes from Colombia and Ecuador S to N Peru. E Andes of Colombia and N Ecuador. E Ecuador. E Andes from Peru S to C Bolivia (Cochabamba).	Least Concern. CITES II. Poorly known, but perhaps often overlooked; probably common. Conservation priority considered low to medium.
Tropical Screech-owl <i>Megascops choliba</i> Nine subspecies	Costa Rica to NW Colombia, including Pearl Is. Margarita I, off N Venezuela. Duida Mts in S Venezuela. E Colombia and E Peru across to Venezuela, Trinidad, the Guianas and NE Brazil. Bolivia. C & E Brazil. S Brazil (S Mato Grosso, São Paulo) to E Paraguay. W Paraguay and N Argentina (S to Mendoza, N Buenos Aires and N Río Negro). NE Argentina, SE Brazil (Santa Catarina, Rio Grande do Sul) and Uruguay.	Least Concern. CITES II. Widely distributed and rather common. Little is known, however, about its population levels and ecology.
Koepcke's Screech-owl	Northern and central Peru	Least Concern. CITES II.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
<i>Megascops koepckeae</i> Two subspecies		
Rufescent Screech-owl <i>Megascops ingens</i> Three subspecies	W slope of Andes from WC Colombia (Valle) to NW Ecuador. N Colombia and NW Venezuela. Andes from SW Colombia S on E slope to C Bolivia.	Least Concern. CITES II. Status is uncertain, and species little known; may be rare, unless overlooked.
Cinnamon Screech-owl <i>Megascops petersoni</i>	Cordillera del Cutucú in SE Ecuador S to La Peca region in NW Peru.	Least Concern. CITES II. Restricted-range species. Very poorly known, and no information on numbers; described as probably rare. Destruction of forest habitat is probably a long-term threat.
Cloudforest Screech-owl <i>Megascops marshalli</i>	C & S Peru in Pasco (Cordillera Yanachaga) and Cuzco (Cordillera Vilcabamba). Least Concern	NEAR THREATENED. CITES II. Restricted-range species: present in Peruvian East Andean Foothills EBA. Poorly known.
Montane Forest Screech-owl <i>Megascops hoyi</i>	Mountains of S Bolivia (S from Cochabamba) and NW Argentina (S to Tucumán, possibly to Catamarca).	Least Concern. CITES II. .
Guatemalan Screech-owl <i>Megascops guatemalae</i> Seven subspecies	NW Mexico (S Sonora and SW Chihuahua S to Sinaloa). SW Sinaloa to Oaxaca. E Mexico (S Tamaulipas and N Veracruz). Veracruz. Yucatán Peninsula and Cozumel I. SE Mexico (S Veracruz and NE Oaxaca) to Honduras. N Nicaragua.	Least Concern. CITES II. Little information available; appears to be not rare locally. Populations have probably declined as a result of forest destruction. Habitat loss is a threat, at least in the long term.
Choco Screech-owl <i>Megascops centralis</i>	Panama, east of Chiriquí through Darién, into Serranía de Baudo (Colombia), and south along the western slope of the Western Andes to southwestern Ecuador	Data-Deficient
Foothill Screech-owl <i>Megascops roraimae</i> Five species	Guianan Shield, on the tepuis of S Venezuela, adjacent N Brazil, S Guyana, and Suriname. Andean foothills of Venezuela, E Colombia and E Ecuador. N Venezuela. E Peru. N Bolivia.	Least Concern. Regularly split, lumped and shuffled taxonomically.
Long-tufted Screech-owl <i>Megascops sanctaecatarinae</i>	SE Brazil (Paraná, Santa Catarina, Rio Grande do Sul), NE Argentina (Misiones) and N Uruguay.	Least Concern. CITES II. Generally overlooked, especially as a result of confusion with <i>M. atricapillus</i> . Loss of habitat through overgrazing, burning and tree-felling represents the greatest threat to species.
Bearded Screech-owl <i>Megascops barbarus</i>	Highlands of S Mexico (Chiapas) and N Guatemala.	Least Concern. CITES II. Restricted-range species; present in North Central American Highlands EBA. Currently considered Near-threatened. Considered fairly common but very local. Population level unknown, but possibly decreasing
Balsas Screech-owl <i>Megascops seductus</i>	SW Mexico, from S Jalisco and Colima to W Guerrero.	NEAR THREATENED. CITES II. Habitat specialist of threatened tropical deciduous forest.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Pacific Screech-owl <i>Megascops cooperi</i> Two subspecies	S Mexico (Pacific slope of Oaxaca). Pacific slope of southern Mexico (extreme eastern Oaxaca and Chiapas) south to northwestern Costa Rica	Least Concern. CITES II. Considered fairly common to common in most of range, but no information on population size.
Western Screech Owl <i>Megascops kennicottii</i> Eight subspecies	Western North America. Coast from SE Alaska & NW Canada. SW USA, Baja California, Mexico.	Least Concern. CITES II. Fairly common to locally common.
Eastern Screech-owl <i>Megascops asio</i> Six subspecies	North America, east of the Rocky Mountains	Least Concern. CITES II. Long-term negative human impacts on this species are doubtful.
Santa Marta Screech-owl <i>Megascops gilesi</i>	Sierra Nevada de Santa Marta, in northernmost Colombia	VULNERABLE. Restricted-range species in one of the most important single sites in the Americas for the conservation of global diversity.
Peruvian Screech-owl <i>Megascops roboratus</i> Two subspecies	SW Ecuador and extreme NW Peru (S to Lambayeque). Extreme S Ecuador and NW Peru between W & C Andes (drainage of R Chinchipe and R Marañón).	Least Concern. CITES II. Can be very common locally, but overall rare and possibly vulnerable; both N and S limits of distribution, however, uncertain.
Tawny-bellied Screech-owl <i>Megascops watsonii</i> Two subspecies	Lowlands from E Colombia S to NE Peru and E (N of R Amazon) to Surinam and Amazonian Brazil. E. Peru and S Amazonian Brazil S to lowland forest of N Bolivia and N Mato Grosso.	Least Concern. CITES II. Status uncertain, and species poorly known.
Black-capped Screech-owl <i>Megascops atricapilla</i>	SE Brazil (S Bahia and S Goiás S to Santa Catarina), SE Paraguay and extreme NE Argentina (N Misiones); an isolated population in NE Brazil (Alagoas, E Pernambuco)	Least Concern. CITES II.
Palau Owl <i>Pyrroglaux podargina</i>	Palau Is (Babelthuap, Koror, Peleliu and Angaur).	Least Concern. CITES II. Restricted-range species: present in Palau EBA. Current status uncertain.
Bare-legged owl <i>Margarobyas lawrencii</i> Two subspecies	Cuba and the Isla de Pinos	Least Concern. CITES II. Considered fairly common or common. Not well known, however, and more information needed on species' ecology and exact status.
Northern White-faced Owl <i>Ptilopsis leucotis</i>	Senegambia E to Somalia, S to N Zaire, N Uganda and C Kenya.	Least Concern. CITES II.
Southern White-faced Owl <i>Ptilopsis granti</i>	SE Gabon, C Congo, S Zaire, S Uganda and SW Kenya, S to S Namibia, N Cape Province and Natal.	Least Concern. CITES II.
Crested Owl <i>Lophostrix cristata</i> Three subspecies	S Mexico to W Panama and W Colombia. E Panama to NE Colombia and NW Venezuela; possibly also N Venezuela (1 specimen from Aragua). S Venezuela and the Guianas to N Brazil (W Pará), S through Amazonia to N Bolivia and N Mato Grosso, then W to SW Colombia, E Ecuador and E Peru.	Least Concern. CITES II. Very poorly known
Maned Owl <i>Jubula lettii</i>	Liberia, Ivory Coast and Ghana; and patchily from S Cameroon and N Gabon to E Zaire.	Least Concern. CITES II. Very poorly known; status difficult to assess owing to

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
		species' secretive and nocturnal habits, and because of scant information on its biology.
Spectacled Owl <i>Pulsatrix perspicillata</i> Six subspecies	Mexico, Costa Rica and South America	Least Concern. CITES II.
Tawny-browed Owl <i>Pulsatrix koeniswaldiana</i>	E Paraguay, extreme NE Argentina (Misiones), and S Brazil (from Espírito Santo S to Santa Catarina).	Least Concern. CITES II. Restricted-range species: present in Atlantic Forest Lowlands EBA.
Band-bellied Owl <i>Pulsatrix melanota</i> Two subspecies	Possibly SE Colombia; E Ecuador, and N Peru to SE Peru. WC Bolivia.	Least Concern. CITES II. Very poorly known; considered relatively rare, and very few reliable records, although apparent rarity possibly due partly to species' nocturnal habits and seldom penetrated forest habitats
Great Horned Owl <i>Bubo virginianus</i> 13 subspecies	North, Central and South America	Least Concern. CITES II. Populations robust; not in need of management.
Eurasian Eagle-owl <i>Bubo bubo</i> 14 subspecies	Iberian Peninsula; formerly also Atlas Mts in NW Africa (probably extinct). Europe from N Spain and Scandinavia E to W Russia (E to about Gor'kiy). C European Russia E to foothills of Rual Mts, S to lower Volga basin. From Romania and S Ukraine E to Volga delta, S to Middle East (S to C Israel and Jordan) and NW Iran. From W foothills of Urals E to R Ob, S to W Altai. C Siberia from R Ob to L Baikal, S to Altai and N Mongolia. Steppes between lower R Volga and R Ural, E to Transbaikalia, and S to Kazakhstan, extreme NW China (Tarim Basin in NW Xinjiang) and W Mongolia. Turkmeniya to W China (Chinese Turkestan). From Pamirs and N Tien Shan S to the Himalayas. E Iraq and Iran, Afghanistan, and N & W Pakistan. NE Siberia. SE Siberia to NE China, Sakhalin, N Hokkaido and S Kuril Is. From W & C China (S to Yunnan and Sichuan) E to Korea. SE China.	Least Concern. CITES II. Uncommon to scarce or rare throughout range.
Rock Eagle-owl <i>Bubo bengalensis</i>	Indian Subcontinent (except Sri Lanka), N to foothills of Himalayas, and W Myanmar.	Least Concern. CITES II. No details on population levels; generally uncommon, but perhaps more common locally in N and C India. Further studies needed on ecology and biology.
Pharaoh Eagle-owl <i>Bubo ascalaphus</i> 2 subspecies	B.a. ascalaphus - NW Africa and N Egypt E to W Iraq. B.a. desertorum - Sahara S to Mauritania and Niger, E to Ethiopia, Arabia and S Iraq.	Least Concern. CITES II. Little information on population levels, but probably not uncommon in most of range.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Cape Eagle-owl <i>Bubo capensis</i> 3 subspecies	S Eritrea and Ethiopian Highlands. From WC Kenya S to Zimbabwe and W Mozambique. South Africa and extreme S Namibia.	Least Concern. CITES II. Generally uncommon to rare, and very local; more common in some places, e.g. Mau Plateau in SW Kenya
Spotted Eagle-owl <i>Bubo africanus</i> 3 subspecies	SW Arabia, Yemen and Oman. Gabon E to Zaire (S of rainforest), S Uganda and C Kenya, S to the Cape. R Tana and Lali Hills, in SE Kenya.	Least Concern. CITES II. Few data on densities.
Grayish Eagle-owl <i>Bubo cinerascens</i>	Senegambia E to Ethiopia and Somalia, S to Cameroon, N Uganda and N Kenya.	Least Concern. CITES II. Generally, rather uncommon through most of the range.
Fraser's Eagle-owl <i>Bubo poensis</i>	Liberia E to W Uganda, S through Congo basin to C Zaire and NW Angola; also Bioko (Fernando Poo).	Least Concern. CITES II. Biology relatively unknown, and breeding undocumented.
Usambara Eagle-owl <i>Bubo vosseleri</i>	Usambara Mts of NE Tanzania; recently discovered in Uluguru Mts; also possible sighting in Nguru Mts.	VULNERABLE. CITES II. Restricted-range species: present in Tanzania-Malawi Mountains EBA.
Spot-bellied Eagle-owl <i>Bubo nipalensis</i> 2 subspecies	Himalayas from N Uttar Pradesh E to SW China (Yunnan), S to Cambodia and Vietnam; also S India in Western Ghats and Tamil Nadu. Sri Lanka.	Least Concern. CITES II. Global population size and population trends unknown.
Barred Eagle-owl <i>Bubo sumatranus</i> 2 subspecies	B.s. sumatranus - Extreme S Myanmar and peninsular Thailand S to Sumatra, including Bangka I. B.s. strepitans - Borneo, Java and Bali.	Least Concern. CITES II. Little information available. Ability to adapt to disturbed forest and to accept second-growth habitats suggested this species is not in any immediate danger.
Shelley's Eagle-owl <i>Bubo shelleyi</i>	Sierra Leone and Liberia E to Ghana, and S Cameroon and N Gabon E to N Zaire.	VULNERABLE. CITES II. Rare and very local throughout its range.
Verreaux's Eagle-owl <i>Bubo lacteus</i>	Tropical W Africa patchily from Senegal and C Mali E to Cameroon, and from C Sudan, N Ethiopia and Somalia S to South Africa.	Least Concern. CITES II.
Dusky Eagle-owl <i>Bubo coromandus</i> 2 subspecies	Pakistan, N & C India and S Nepal E to Assam and Bangladesh; apparently this race is also in E China. W & S Myanmar, W Thailand.	Least Concern. CITES II.
Akun Eagle-owl <i>Bubo leucostictus</i>	Patchily from Sierra Leone and Liberia E to Nigeria and Cameroon, S to the mouth of R Congo, Cabinda and probably NW Angola, and across N Zaire.	Least Concern. CITES II. Patchy distribution with restricted pattern of occurrence; usually considered uncommon. More study needed to assess its status, and any possible impacts of logging.
Philippine Eagle-owl <i>Bubo philippensis</i> Two subspecies	Luzon and Catanduanes. Samar, Leyte and Mindanao; recently recorded in Bohol.	VULNERABLE. CITES II. Previously listed as Endangered. Rapid population decline due to extensive lowland habitat destruction, and possibly hunting.
Snowy Owl <i>Bubo scandiacus</i>	Nests on Arctic tundra habitats throughout its northern circumpolar breeding range—often adjacent to coastal Arctic seas. Has the most northerly breeding and wintering distribution of any owl species. During non-breeding, can appear almost anywhere in the world.	VULNERABLE. CITES II. Generally uncommon to scarce. Thought to be sparsely distributed, with subpopulations clumped around food resources, rather evenly distributed across the tundra.

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Blakiston's Fish-owl <i>Bubo blakistoni</i> Four subspecies	W Manchuria (W of Great Khingan Mts). SE Siberia and extreme NE China, to the Korean border. Sakhalin I. Hokkaido and S Kuril Is.	ENDANGERED. CITES II. One of the world's rarest owls. Numbers in Russia, including Sakhalin and S Kuril Is, estimated at 300-400 pairs in 1984.
Brown Fish-owl <i>Ketupa zeylonensis</i> Four subspecies	S Turkey, Israel (probably extinct) and N Syria to NW India. India (S of Himalayas) E to Myanmar (except NE) and Thailand. Sri Lanka. NE Myanmar to SE China (Guangxi, Guangdong), S to Malay Peninsula, Indochina and Hainan I.	Least Concern. CITES II. Generally uncommon. Rare in W of range: in Middle East, either extinct or on the verge, with last confirmed sighting in mid-1970's, and none located in surveys in mid-1980's
Tawny Fish-owl <i>Ketupa flavipes</i>	Himalayas from NW India, Nepal and Bhutan to NE India, E to C China and Taiwan, and S to N Bangladesh, NE Myanmar and S Indochina.	Least Concern. CITES II. Currently considered Near-threatened. In W, very rare and local to uncommon.
Buffy Fish-owl <i>Ketupa ketupu</i> Four subspecies	S Assam to S Thailand and Vietnam. Malay Peninsula, Riau Archipelago, Sumatra, Bangka, Belitung, Java, Bali, and Borneo (except NW). Nias I, off W Sumatra. NW Borneo.	Least Concern. CITES II. Status poorly known; uncommon in Thailand; locally uncommon to more or less common in Malay Peninsula and SE Asia; common in Borneo.
Pel's Fishing-owl <i>Scotopelia peli</i>	Locally from Senegambia E to Benin, and from Nigeria S across Congo Basin and C Africa to Botswana, Mozambique and NE South Africa; also SE Sudan, Ethiopia, S Somalia, Kenya and Tanzania; status in S Mali, Burkina Faso and S Niger unclear.	Least Concern. CITES II
Rufous Fishing-owl <i>Scotopelia ussheri</i>	Sierra Leone, Liberia, Ivory Coast and Ghana; possibly also Guinea.	VULNERABLE. CITES II. Formerly Endangered. Small number of observations suggests that the species is rare, although it may be overlooked because of its elusive nature. Main threats are clearance of mangrove and forest, and river pollution from iron ore mining.
Vermiculated Fishing-owl <i>Scotopelia bouvieri</i>	Congo Basin in S Cameroon, Gabon, Central African Republic, Congo, Zaire, and extreme NW Angola; possibly SE Nigeria.	Least Concern. CITES II. Little is known about its biology because of its secretive lifestyle and remote habitat preferences
Northern Hawk-owl <i>Surnia ulula</i> Three subspecies	N Eurasia E to Kamchatka and Sakhalin, C Siberia S to Tarbagatay. C Asia and NW & NE China, possibly also N Mongolia. Alaska through Canada to Newfoundland, S to extreme N USA.	Least Concern. CITES II. Numbers fluctuate markedly with abundance of small rodents.
Eurasian Pygmy-owl <i>Glaucidium passerinum</i> Two subspecies	From Scandinavia and mountains of S, C & E Europe E across NW & C Russia and Siberia to Sakhalin and NE China. C & E Siberia.	Least Concern. CITES II
Collared Owlet <i>Glaucidium brodiei</i> Four subspecies	From N Pakistan through the Himalayas to SE Tibet, N Indochina, S, C & E China (including Hainan), and S to Malaysia. Taiwan. Sumatra. Borneo.	Least Concern. CITES II. Mainly a forest bird, only occasionally observed near human habitation, so presumably vulnerable to effects of habitat destruction.
Pearl-spotted Owlet <i>Glaucidium perlatum</i> Two subspecies	Senegambia to W Sudan; possibly also Liberia. E Sudan, Ethiopia and Uganda S to N & E South Africa, Angola and Namibia.	Least Concern. CITES II.

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Northern Pygmy-owl <i>Glaucidium gnoma</i> Seven subspecies	S USA (SE Arizona) S through the interior highlands of Mexico. SE Alaska S through coastal British Columbia to coastal W USA. Vancouver I. C British Columbia and Alberta to W USA and NW Mexico. S Mexico (Chiapas), Guatemala and Honduras. S Baja California (W Mexico): Sierra Victoria, probably also Sierra de la Giganta.	Least Concern. CITES II. Few data. No populations threatened or endangered
Costa Rican Pygmy-owl <i>Glaucidium costaricanum</i>	C Costa Rica to W Panama, possibly to E Panama.	Least Concern. CITES II. Restricted-range species: present in Costa Rica and Panama highlands EBA. Rare in Panama.
Cloud Forest Pygmy-owl <i>Glaucidium nubicola</i>	W slope of Andes in Colombia (Cordillera Central) and Ecuador.	VULNERABLE. CITES II. The most recent assessment of status indicates that the present species does not occur in any large protected areas and probably benefits very little from existing conservation reserves.
Andean Pygmy-owl <i>Glaucidium jardinii</i>	From N Colombia and W Venezuela S through Ecuador to C Peru.	Least Concern. CITES II. Needs at least patchy forest, but little information available; probably VULNERABLE to forest destruction.
Yungas Pygmy-owl <i>Glaucidium boliviianum</i>	E slope of Andes in SE Peru, WC Bolivia and NW Argentina.	Least Concern. CITES II.
Subtropical Pygmy-owl <i>Glaucidium parkeri</i>	E slope of Andes in Ecuador and Peru; possibly N to SW Colombia, possibly also extending farther S into N Bolivia.	Least Concern. CITES II. Considered uncommon
Central American Pygmy-owl <i>Glaucidium griseiceps</i> Three subspecies	S Mexico (SE Veracruz, N Oaxaca and Chiapas). Guatemala, Belize and Honduras. Costa Rica and Panama.	Least Concern. CITES II. Generally little known
Tamaulipas Pygmy-owl <i>Glaucidium sanchezi</i>	NE Mexico (S Tamaulipas, SE San Luis Potosí, and extreme N Hidalgo).	NEAR THREATENED. CITES II. Restricted-range species: present in Southern Sierra Madre Oriental EBA.
Colima Pygmy-owl <i>Glaucidium palmarum</i> Three subspecies	S Sonora to S Sinaloa (NW Mexico). Nayarit to Oaxaca (C Mexico). SW Morelos and NE Guerrero (C Mexico).	Least Concern. CITES II.
Amazonian Pygmy-owl <i>Glaucidium hardyi</i>	From SE Venezuela (Bolívar) E through the Guianas to N Brazil (Pará), and S to SE Peru, N & E Bolivia and S Mato Grosso.	Least Concern. CITES II. Generally considered uncommon, but may well be overlooked as it lives high up in forest; often kept as a pet by native tribes. VULNERABLE to forest destruction throughout range.
Pernambuco Pygmy-owl <i>Glaucidium mooreorum</i>	E Pernambuco, in NE Brazil.	CRITICALLY ENDANGERED. Restricted-range species: present in Atlantic Slope of Alagoas and Pernambuco EBA. Known only from a few individuals.
Least Pygmy-owl <i>Glaucidium minutissimum</i>	E Paraguay, S & E Brazil and possibly NE Argentina (Misiones).	Least Concern. CITES II. Possibly rare, though sometimes adopted as a pet by native people; perhaps escapes attention because of less accessible, more forested

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
		habitat. Habitat destruction probably represents a serious threat.
Ferruginous Pygmy-owl <i>Glaucidium brasilianum</i> 13 subspecies	southwestern United States to southern South America	Least Concern. CITES II. In the USA, it has declined dramatically during the 20th century. In South America, this species (and other <i>Glaucidium</i>) kept as cage-birds in the belief that they bring luck and success in love.
Austral Pygmy-owl <i>Glaucidium nana</i>	Breeds S Chile and S Argentina S to Tierra del Fuego, some wintering farther N in Chile and Argentina.	Least Concern. CITES II.
Peruvian Pygmy-owl <i>Glaucidium peruanum</i>	W Ecuador (Manabí) S through W Peru to N Chile; also E of Andes in extreme SE Ecuador (Zamora-Chinchipe) and Marañón drainage of Peru.	Least Concern. CITES II.
Cuban Pygmy-owl <i>Glaucidium siju</i> Two subspecies	Cuba. I of Pines.	Least Concern. CITES II.
Red-chested Owlet <i>Glaucidium tephronotum</i> Three subspecies	Liberia, Ivory Coast and Ghana. Cameroon. Congo Basin, E Zaire and SW Uganda. E Uganda and W Kenya.	Least Concern. CITES II. Rare and hard to locate.
Sjöstedt's Owlet <i>Glaucidium sjostedti</i>	Cameroon, Gabon, N Congo, S Central African Republic and NW & C Zaire.	Least Concern. CITES II. Uncommon in most of range
Asian Barred Owlet <i>Glaucidium cuculoides</i> Eight subspecies	Himalayas from NE Pakistan and Kashmir E to W Sikkim, Bhutan, NE Assam and NW Myanmar. NE India, Bangladesh and N Myanmar. S Myanmar and S Thailand. N Indochina. SE Thailand and S Indochina. W, C & SE China and NE Vietnam. Hainan.	Least Concern. CITES II.
Javan Owlet <i>Glaucidium castanopterum</i>	Java and Bali.	Least Concern. CITES II. Little information available; ecology and tolerance of human activities may be similar to those of <i>G. cuculoides</i> ; detailed information much desired. Habitat loss is probably the main threat.
Jungle Owlet <i>Glaucidium radiatum</i> Two subspecies	Himalayas from Himachal Pradesh E to Bhutan, Bangladesh and possibly W Myanmar, and S through India; also Sri Lanka. SW India.	Least Concern. CITES II. Status poorly known. Common in Sri Lanka, but suffering under deforestation
Chestnut-backed Owlet <i>Glaucidium castanonotum</i>	Sri Lanka.	NEAR THREATENED. CITES II. Restricted-range species: present in Sri Lanka EBA
African Barred Owlet <i>Glaucidium capense</i> Three subspecies	Extreme S Somalia and E Kenya to NE Tanzania. C Tanzania and SE Zaire across to S Angola, S to N Namibia, N Botswana, E Transvaal and SC Mozambique; also Mafia I. From S Mozambique S to E Cape.	Least Concern. CITES II. Threatened by habitat destruction, bush clearance for agriculture occurring at alarming rate; especially dangerous to survival since ecology and exact habitat affinities are so poorly understood.

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Chestnut Owlet <i>Glaucidium castaneum</i> Two subspecies	Patchily in Liberia and Ivory Coast. NE Zaire (Semliki Valley) and SW Uganda (Bwamba Forest).	Least Concern. CITES II. May be threatened by loss of native forest. Almost nothing is known about its population status and biology.
Albertine Owlet <i>Glaucidium albertainum</i>	Albertine Rift in E Zaire and N Rwanda.	VULNERABLE. CITES II. Restricted-range species. Surviving numbers not known, but a small number of specimens collected from an area well explored by ornithologists suggests that it is rare.
Long-whiskered Owlet <i>Xenoglaux loweryi</i>	N Peru (Río Mayo valley, NW San Martín).	VULNERABLE. CITES II. Very small known range combined with habitat destruction.
Elf Owl <i>Micrathene whitneyi</i> Four subspecies	Breeds SW USA (extreme S Nevada, SE California, C Arizona, SW New Mexico and SW Texas) S to NW Mexico (Sonora). S Texas S to C Mexico (S to Puebla, W to Guanajuato). S Baja California and parts of Mexican mainland. Revillagigedo Is (Socorro I).	Least Concern. CITES II. Almost extirpated in California, where classified as Endangered by California Department of Fish and Game.
Spotted Owlet <i>Athene brama</i> Four subspecies	S Iran and S Pakistan; possibly also S Afghanistan. N & C Indian Subcontinent. S India. Myanmar, Thailand (except S half of the peninsula), S Laos, Cambodia and S Vietnam.	Least Concern. CITES II. Common over most of range, though rare in S Vietnam.
Little Owl <i>Athene noctua</i> 13 subspecies	W & N Europe (S Baltic S to Iberia, including Balearic Is) E to NW Russia. C Europe (from about S Germany) S to Sardinia and Sicily, E to Romania. Albania, SE Yugoslavia, S & E Romania, S Ukraine, S Russia, Caucasus and SW Siberia, S to Crete, Turkey (except SE) and Middle East (S to Haifa). N Africa, and coastal Israel S from Haifa. N & C Sahara (S to Mauritania, Mali, Niger, Chad and Sudan), E discontinuously into Arabian Peninsula. E Sudan, N Ethiopia. E Ethiopia, Somalia. Cyprus, and inland Middle Est from SE Turkey S to S Sinai. From SE Azerbaijan, E Iraq, Iran and Afghanistan E through C Asia to L Balkhash. Extreme NW China and adjacent Siberia. Kokonor, W Gansu. SC China and S & E Tibet, S to N Himalayas. NE China, Mongolia and Ussuriland. Introduced (vidalii), just outside natural range, to Britain; also introduced (vidalii) to New Zealand.	Least Concern. CITES II. Population fluctuates, especially in N of range, where marked decreases are recorded after severe winters.
Forest Owlet <i>Athene blewitti</i>	WC & EC India: plains and low foothills of Akrani Range (W end of Satpura Mts) near Tapi (Tapti) R in NW Maharashtra (formerly W Khandesh), and probably in E Madhya Pradesh and W Orissa (no records in 20th century from last two).	ENDANGERED. CITES I. Population estimated in 2017 to be 250–1000 mature individuals. Identification of principal threats confounded by rarity.

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White-browed Owl <i>Athene superciliaris</i>	NE, SW & S Madagascar.	Least Concern. CITES II.
Burrowing Owl <i>Athene cunicularia</i> 18 subspecies	North America, Venezuela, Colombia, Ecuador, Bolivia, Argentina, Brazil, Peru, Cuba, Bahamas	Least Concern. CITES II. Listed as Endangered in Minnesota; Threatened in Colorado; Species of Special Concern in California, Montana, Oklahoma, Oregon, Utah, Washington and Wyoming.
Mottled Owl <i>Ciccaba virgata</i> Seven subspecies	Mexico, Central and South America	Least Concern. CITES II. Rather widespread, and considered fairly common to common in some places.
Black-and-white Owl <i>Ciccaba nigrolineata</i>	C Mexico to NW Venezuela, W Colombia and W Ecuador and extreme NW Peru.	Least Concern. CITES II. Forest clearance is a likely threat; extensive use of pesticides may also affect it.
Black-banded Owl <i>Ciccaba huhula</i> Two subspecies	E Colombia, S Venezuela and the Guianas to NE Brazil, S to E Peru, NW Argentina, N Paraguay and E Brazil. SE Brazil, E Paraguay and NE Argentina (Misiones).	Least Concern. CITES II. Appears to be scarce throughout entire range
Rufous-banded Owl <i>Ciccaba albifrons</i>	Andes from N Venezuela S to W & C Bolivia.	Least Concern. CITES II. Status uncertain; locally fairly common, but few reliable data. Probably adversely affected by cutting of forest habitat.
Spotted Wood-owl <i>Strix seloputo</i> Three subspecies	S Myanmar and C Thailand S to Sumatra (Jambi) and Java. Bawean I, off N Java. Calamian Is and Palawan, in W Philippines.	Least Concern. CITES II. Reports vary. Possibly overlooked as a result of its rather secretive habits, although species seems to occur at naturally low densities.
Mottled Wood-owl <i>Strix ocellata</i> Three subspecies	From the base of Himalayas in Pakistan S to about Rajasthan, and E to Bihar. S Gujarat (Saurashtra Peninsula). Peninsular India. Apparently resident also in W Myanmar, but race undetermined.	Least Concern. CITES II. Uncommon in India; no recent records from Pakistan, were extremely rare or possibly even extinct. Status in Myanmar uncertain; said to have been common in SW (Arakan) before 1950's, but no information since then.
Brown Wood-owl <i>Strix leptogrammica</i> 14 subspecies	Malaysia	Least Concern. CITES II. Uncommon throughout most of range in Indian Subcontinent, and rare and local in Bangladesh; rare in Java, where ongoing clearance of mountain forest represents a major threat; in rest of range appears to be uncommon to rare, and again suffering from forest destruction.
Tawny Owl <i>Strix aluco</i> Eight subspecies	N & E Europe E to W Russia (Ural Mts), S to Alps, Balkans and Black Sea; intergrades with. From Ural Mts to W Siberia. Britain, France and Iberia; probably this race also from S Italy and Greece E to W & C Turkey and Middle East; intergrades with sanctinicolai. NW Africa (Morocco to Tunisia). NE Turkey, Caucasus and NW Iran, E to Turkmeniya. NE Iraq and W Iran. Turkestan. Pakistan and NW India.	Least Concern. CITES II. Though rather uncommon in China.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Himalayan Owl <i>Strix nivicolum</i> Three subspecies	NW India from W Himachal E through Nepal to SE China, S to N Myanmar and N Indochina. NE China (Jilin) and Korea. Taiwan.	Least Concern. CITES II.
Desert Owl <i>Strix hadorami</i>	E & S Israel, Jordan, Sinai Peninsula, Red Sea mountains (E Egypt and NE Sudan), and patchily in Arabian Peninsula (Saudi Arabia, Yemen and S Oman).	Least Concern. CITES II.
Omani Owl <i>Strix butleri</i>	E & S Israel, Jordan, Sinai Peninsula and E Egypt (Red Sea mountains), and patchily in Arabian Peninsula (Saudi Arabia, Yemen and Oman); possibly still S Pakistan (Makran Coast), perhaps also S Iran.	Data Deficient. CITES II.
Spotted Owl <i>Strix occidentalis</i> Three subspecies	SW Canada (British Columbia), S through W USA Coast Ranges to N California. C and S Californian Coast Ranges and W slope of Sierra Nevada, S to N Baja California. Mountains of sw US to c Mexico (Michoacán and Guanajuato)	NEAR THREATENED. CITES II. Northern and Mexican Spotted Owls currently listed as Threatened federally. California subspecies listed as species of Special Concern by the state of California.
Barred Owl <i>Strix varia</i> Four subspecies	North America and Mexico	Least Concern. CITES II. The greatest impact that humans have on this species is habitat modification through deforestation and timber harvesting.
Fulvous Owl <i>Strix fulvescens</i>	S Mexico (E Oaxaca and Chiapas), Guatemala, Honduras and El Salvador.	Least Concern. CITES II. Large range, but based on determinations of habitat loss, estimated that 50% or more of its population has been lost in Mexico during the last century.
Rusty-barred Owl <i>Strix hylophila</i>	E & S Paraguay, SE Brazil (from Minas Gerais to Rio Grande do Sul) and extreme NE Argentina (Misiones).	NEAR THREATENED. CITES II. Generally rare; locally fairly common, e.g. in NE Argentina (Misiones). Major threat appears to be habitat loss, mainly through logging and burning of forest. Because of the scale of such habitat loss in all parts of its range, species should be carefully monitored.
Rufous-legged Owl <i>Strix rufipes</i> Two subspecies	From Chile and extreme WC Argentina S to Tierra del Fuego. Chiloe I, off SC Chile.	Least Concern. CITES II. Status uncertain, owing to rather elusive habits.
Chaco Owl <i>Strix chacoensis</i>	Chaco of S Bolivia (Santa Cruz), W Paraguay and N Argentina (S to Córdoba, San Luis and N La Pampa).	NEAR THREATENED. CITES II. Population trend appears to be stable.
Ural Owl <i>Strix uralensis</i> Eight subspecies	N Europe and NW Russia (E to about Arkhangel'sk region), S to N Poland, Belarus and middle R Volga. From E European Russia E to Okhotsk coast. C & SE Europe (from Carpathian Mts S to Bulgaria, and in W Balkans). C Siberian plateau. Transbaikalia E to Sakhalin, S to NE China and Korea.	Least Concern. CITES II.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
	Hokkaido. N & C Honshu. S Honshu S to Kyushu.	
Pere David's Owl <i>Strix davidi</i>	C China: SE Qinghai and W & C Sichuan.	VULNERABLE. CITES II. Restricted-range species: present in West Sichuan Mountains EBA. Threatened by extensive deforestation occurring within its range. Further research is urgently required.
Great Gray Owl <i>Strix nebulosa</i> Two subspecies	North America, from C Alaska E to SW Quebec, S to EC California, N Idaho and NE Minnesota. Eurasia, from Fennoscandia E to W Koryakland, S to Lithuania, N Mongolia, NE China and N Sakhalin.	Least Concern. CITES II. Populations fluctuate widely, but generally scarce, with food supply likely a critical factor regulating numbers.
African Wood-owl <i>Strix woodfordii</i> Four subspecies	Senegambia E to S Sudan and Uganda, S to N Angola and Zaire (except S & E), including Bioko I. Ethiopia and SE Sudan. S Somalia, Kenya, Tanzania, Zanzibar and E Zaire. S Angola and S Zaire E to SW Tanzania, S to N Botswana and the Cape.	Least Concern. CITES II
Northern Long-eared Owl <i>Asio otus</i> Four subspecies	Eurasia, from British Is and Iberia E to Sea of Okhotsk, S to Mediterranean islands, Middle East, N Pakistan (has bred) and Japan, with isolated population in EC China; also Azores, and NW Africa (Morocco to NW Tunisia). Canary Is. W Canada (S Yukon, S British Columbia E to Saskatchewan) S to Mexico (NW Baja California, Nuevo Leon) and S USA (W Texas). From SC & SE Canada (Manitoba E to Nova Scotia) S in the USA to N Oklahoma and Virginia.	Least Concern. CITES II.
African Long-eared Owl <i>Asio abyssinicus</i> Two subspecies	Highlands of Ethiopia and Eritrea. Ruwenzori and Mitumba Mts in E Zaire/W Uganda, and Mt Kenya.	Least Concern. CITES II. Scarce to rather rare throughout range. Race <i>graueri</i> are rare on Mt Kenya; known from only 1 specimen, but sighted in 1975 and 1992.
Madagascar Owl <i>Asio madagascariensis</i>	Madagascar.	Least Concern. CITES II. Status difficult to assess because of secretive and nocturnal lifestyle; may be overlooked. May be threatened by deforestation, which is extensive in Madagascar.
Striped Owl <i>Asio clamator</i> Four subspecies	S Mexico to Panama. Colombia and Venezuela S to E Peru and C & NE Brazil. Tobago and NE Trinidad. E Bolivia and S Brazil S to N Argentina and Uruguay.	Least Concern. CITES II. Status generally poorly known, and little information on ecology and biology. Race <i>oberi</i> little known, may even be extinct.
Stygian Owl <i>Asio stygius</i> Six subspecies	W Mexican highlands (SW Chihuahua to Jalisco). From S Mexico (Guerrero and Veracruz) discontinuously to NW Venezuela, Colombia and Ecuador. Cuba and I of Pines. Hispaniola and Ile de Gonâve. From N Brazil S to E Bolivia, NE Argentina and SE Brazil. Paraguay and N Argentina.	Least Concern. CITES II. Considered generally rare or patchily distributed. Distribution incompletely documented. Data on life history needed to develop conservation strategies.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Short-eared Owl <i>Asio flammeus</i> Ten subspecies	Breeds Iceland, British Is, and locally through Europe and Asia E to Kamchatka and Commander Is, S to Spain, Caucasus, NE Mongolia and NE China; also North America from W & N Alaska through Canada and S to C USA. Pohnpei I, in E Caroline Is. Hawaiian Is. Hispaniola; also (possibly this race) Cuba. Puerto Rico. N Venezuela, Guyana. Colombia, Ecuador, NW Peru. Galapagos Is. S Peru, WC Bolivia, Paraguay and SE Brazil S to Tierra del Fuego. Falkland Is.	Least Concern. CITES II.
Marsh Owl <i>Asio capensis</i> Three subspecies	NW Morocco. Isolated areas in W Africa, from Senegal to Chad and Cameroon; also from Sudan and Ethiopian Highlands, and from S Congo, S to the Cape. Madagascar.	Least Concern. CITES II.
Fearful Owl <i>Nesasio solomonensis</i>	Solomon Is, on Bougainville, Choiseul and Santa Isabel.	VULNERABLE. CITES II. Restricted-range species: present in Solomon Group EBA.
Jamaican Owl <i>Pseudoscops grammicus</i>	Jamaica.	Least Concern. CITES II. Restricted-range species, Extensive cutting of forest has probably reduced its range and numbers; advisable to monitor status while island's forest areas continue to be destroyed.
Boreal Owl <i>Aegolius funereus</i> Six subspecies	Europe from N Scandinavia S to Pyrenees and then E to Urals, excluding Caucasus. Caucasus; possibly this race or nominate in N Turkey. W Siberia, Tien Shan, and S Siberia E through NE China (Heilongjiang) to the Russian Far East (including Sakhalin). NE Siberia, from Kolyma to Kamchatka. NW India (Lahul) and W China (Qinghai). North America (from C Alaska S to W USA, and E through Canada to Labrador).	Least Concern. CITES II.
Northern Saw-whet Owl <i>Aegolius acadicus</i> Two subspecies	From S Alaska S to S USA, E to SE Canada and N Florida; also highlands of Mexico from NE Sonora to C Michoacán, E in C highlands to Puebla, Hidalgo and C Oaxaca, with isolated population in SE Coahuila, SW Nuevo León and N San Luis Potosí. Queen Charlotte Is (British Columbia).	Least Concern. CITES II. World population is conservatively estimated at 100,000-300,000 individuals. No data on trends, but probably declining slowly as habitat lost
Bermuda Saw-whet Owl <i>Aegolius gradiyi</i>	Bermuda	EXTINCT by 1623
Unspotted Saw-whet Owl <i>Aegolius ridgwayi</i> Three subspecies	S Mexico (Chiapas). Guatemala; Honduras and El Salvador (presumed this race). Costa Rica and W Panama.	Least Concern. CITES II. Currently considered Near-threatened. Generally considered uncommon
Buff-fronted Owl <i>Aegolius harrisii</i> Three subspecies	Andes from NW Venezuela S to NC Peru. E Bolivia, Paraguay, C & E Brazil (Ceará to Rio Grande do Sul), S to NE Argentina and NE	Least Concern. CITES II. Currently considered Near-threatened. Considered generally rare throughout range, but very

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
	Uruguay. NW Argentina (Tucumán, Salta and Jujuy); also (possibly this race) W Bolivia.	few data. Placed on preliminary “Blue List” in Colombia, where population believed to be declining
Rufous Owl <i>Ninox rufa</i> Four subspecies	New Guinea, including Aru and Waigeo Is. NE Western Australia (Kimberleys) and N Northern Territory (Arnhem Land). Coastal and subcoastal Cape York, S in Queensland to about R Endeavour and R Mitchell. Coastal and subcoastal Queensland from R Endeavour S to lower R Burdekin and perhaps Rockhampton.	Least Concern. CITES II.
Powerful Owl <i>Ninox strenua</i>	Coastal and subcoastal SE Queensland (S from R Dawson), E New South Wales and SE Victoria to extreme SE South Australia.	Least Concern. CITES II. Appears to be capable of withstanding a degree of human intrusion into its habitat.
Barking Owl <i>Ninox connivens</i> Four subspecies	N Moluccas (Morotai, Halmahera, Bacan, Obi). C & E New Guinea W to Merauke and R Sepik, including Manam I and Karkar I. Coastal and subcoastal NW, N & NE Australia S to R Endeavour in Queensland, and islands in SW Torres Strait. Coastal and subcoastal SW Australia, southern gulfs, and E & SE Australia (S from foot of Cape York Peninsula).	Least Concern. CITES II. In SE Australia there is evidence of decline in population, and concern because much habitat continues to be lost and degraded by clearing and overgrazing. Listed as VULNERABLE in New South Wales and Victoria.
Sumba Boobook <i>Ninox rudolfi</i>	Sumba I, in C Lesser Sundas.	NEAR THREATENED. CITES II. Restricted-range species: present in Sumba EBA. Poorly known
Andaman Boobook <i>Ninox affinis</i>	Andaman Is (South Andaman) and Nicobar Is (Great Nicobar, Camorta, Trinkat, and Car Nicobar).	Least Concern. CITES II. Restricted-range species: present in Andaman Islands EBA and Nicobar Islands EBA.
Southern Boobook <i>Ninox boobook</i> Ten subspecies	Roti. Timor. Alor. Romang, Leti and Moa. Babar. Kai Is. S New Guinea. Australia W of Great Dividing Range; rarely, islands in Torres Strait; also Sawu (W of Timor). NE Queensland between Cooktown and Paluma. Coastal and subcoastal E Australia, S from S Queensland.	Least Concern. CITES II
Morepork <i>Ninox novaeseelandiae</i> Four subspecies	Tasmania and Bass Strait islands. Norfolk I. New Zealand, including most offshore islands.	Least Concern. CITES II. Widely distributed and fairly common, but no information on population size or trends.
Least Boobook <i>Ninox sumbaensis</i>	Sumba, in W Lesser Sundas.	ENDANGERED. CITES II. Restricted-range species: present in Sumba EBA. Poorly known; recorded from only a handful of localities on Sumba.
Brown Boobook <i>Ninox scutulata</i> Nine subspecies	N and C India to W Assam. S India and Sri Lanka. Car Nicobar. Nicobar Is. E Assam to S China, S to N Malay Peninsula and Indochina. Palawan. S Malay Peninsula, Riau Archipelago, Sumatra and Bangka. W Java. Borneo and N Natuna Is.	Least Concern. CITES II.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Hume's Boobook <i>Ninox obscura</i>	Andaman Is.	Least Concern. CITES II.
Northern Boobook <i>Ninox japonica</i> Two subspecies	SE Siberia to SE Manchuria, e China, Korea and Japan; winters S Asia. Ryukyu Islands and Taiwan.	Least Concern. CITES II.
Chocolate Boobook <i>Ninox randi</i>	Philippines: Luzon, Marinduque, Mindoro, Negros, Cebu, Siquijor, Mindanao, Basilan.	NEAR THREATENED. CITES II. In general, a very poorly studied species, with no hard data on global numbers, population trends or general ecology.
Luzon Boobook <i>Ninox philippensis</i> Three subspecies	Most of the Philippine Is	Least Concern. CITES II. Severe deforestation has occurred throughout the Philippines, but species tolerates some degree of habitat alteration and is still locally common.
Mindanao Boobook <i>Ninox spilocephala</i>	Dinagat, Siargao, Mindanao and Basilan, in S Philippines.	NEAR THREATENED. CITES II. Suspected moderately rapid population decline from forest clearing for timber, agriculture, mining and livestock grazing.
Mindoro Boobook <i>Ninox mindorensis</i>	Mindoro, in WC Philippines.	VULNERABLE. CITES II. Population trend surely must be negative owing to widespread clearing of native forests for timber, mining and agricultural development.
Romblon Boobook <i>Ninox spilonotus</i> Two subspecies	Sibuyan, in NC Philippines. Tablas, in NC Philippines.	ENDANGERED. CITES II. Restricted-range species: present in Tablas, Romblon and Sibuyan EBA.
Cebu Boobook <i>Ninox rumseyi</i>	Cebu, in C Philippines.	ENDANGERED. Restricted-range species: present in Cebu EBA. Rediscovered in 1998 after a gap of 110 years.
Camiguin Boobook <i>Ninox leventisi</i>	Camiguin Sur, off N coast of Mindanao, in S Philippines.	ENDANGERED. Restricted-range species: present in Mindanao and the Eastern Visayas EBA.
Sulu Boobook <i>Ninox reyi</i>	Sulu Archipelago.	VULNERABLE. CITES II. Restricted-range species known only from six islands within the Sulu Archipelago EBA. On five of these six islands, native forest is either completely gone or nearly so.
Ochre-bellied Boobook <i>Ninox ochracea</i>	Sulawesi and Butung.	NEAR THREATENED. CITES II. Restricted-range species: present in Sulawesi EBA. Little known and status uncertain.
Togian Boobook <i>Ninox burhani</i>	Togian Is (Malenge, Togian and Batudaka), in the Gulf of Tomini, off EC Sulawesi.	Near Threatened. Restricted-range species: present in Sulawesi EBA.
Cinnabar Boobook <i>Ninox ios</i>	Highlands of Sulawesi: recorded from N (Minahasa Peninsula) & WC regions (Lore Lindu National Park); possibly also C Sulawesi.	VULNERABLE. CITES II. Restricted-range species: present in Sulawesi EBA. Assessment of status is difficult owing to the species' obscurity; only a handful of confirmed records.

COMMON NAME <i>Scientific Name</i>	RANGE	STATUS IN WILD
Halmahera Boobook <i>Ninox hypogramma</i>	Halmahera, Ternate and Bacan group, in N Moluccas.	Least Concern. CITES II. Restricted-range species found in Northern Maluku EBA.
Tanimbar Boobook <i>Ninox forbesi</i>	Tanimbar Is (E Lesser Sundas).	Least Concern. CITES II. Restricted-range species found only on Tanimbar Is within Banda Sea Islands EBA
Hantu Boobook <i>Ninox squamipila</i> Two subspecies	Buru, in S Moluccas. Seram, in S Moluccas.	Least Concern. CITES II. Restricted-range species
Christmas Island Boobook <i>Ninox natalis</i>	Christmas I (Indian Ocean).	Least Concern. CITES I. Widespread but confined to small, isolated Christmas I, where the only strigid.
Papuan Boobook <i>Ninox theomacha</i> Four subspecies	Waigeo and Misool Is. New Guinea. D'Entrecasteaux Archipelago (Goodenough, Fergusson, Normanby). Louisiade Archipelago (Tagula, Rossel).	Least Concern. CITES II.
Manus Boobook <i>Ninox meeki</i>	Manus I (Admiralty Is).	Least Concern. CITES II. Restricted-range species: present in Admiralty Islands EBA.
Speckled Boobook <i>Ninox punctulata</i>	Sulawesi, including Kabaena, Muna and Butung Is.	Least Concern. CITES II. Widespread, but generally uncommon.
Bismarck Boobook <i>Ninox variegata</i>	New Britain, New Ireland and New Hanover, in Bismarck Archipelago.	Least Concern. CITES II. Restricted-range species: present in New Britain and New Ireland EBA.
New Britain Boobook <i>Ninox odiosa</i>	New Britain, in Bismarck Archipelago.	VULNERABLE. CITES II. Listed due to clearing of lowland forest. Little studied.
Solomons Boobook <i>Ninox jacquinoti</i> Seven subspecies	Buka, Bougainville and Choiseul. Ysabel and St George. GuadaLeast Concernanal. Mono I. Florida I. Malaita I. Bauro and San Cristobal.	VULNERABLE except West Solomons subspecies. CITES II. Restricted-range species: present in Solomon Group EBA.
Papuan Owl <i>Uroglaux dimorpha</i>	Irian Jaya and Papua New Guinea, including Yapen I; probably occurs throughout New Guinea, but are known only from NW & SE.	Least Concern. CITES II. Data-deficient. Sparsely distributed throughout range, and rarely seen; appears to be rare.
Laughing Owl <i>Sceloglaux albifacies</i>	Formerly occurred in mainly S half of North Island in areas of lower rainfall, in South Island E of Southern Alps but well into mountains, and on Stewart I.	EXTINCT since about 1960

Birds of the World (S. M. Billerman, B. K. Keeney, P. G. Rodewald, and T. S. Schulenberg, Editors). Cornell Laboratory of Ornithology, Ithaca, NY, USA. <https://birdsoftheworld.org/bow/home>

*Table current as of 07/06/2021

RAPTOR TAG: IN-SITU AND EX-SITU PROJECTS

- California condor reintroduction – Rachel Ritchason, Santa Barbara Zoo
 - Support USFWS Recovery Program by producing a Breeding and Transfer Plan, at least every two years, with historical and current information about the wild and captive animal population.
 - Update the CA condor studbook and publish annually.
 - Share non-lead ammunition messaging to support Recovery Plan.
 - Continue to support captive breeding efforts and assist where needed for release programs.
- Andean Condor reintroduction – John Azua, Denver Zoo
 - Support the SSP with specimens for the Colombian release programs. Expanding this by the development of new breeding pairs in regionally based zoological facilities.
- Cinereous Vulture SSP – Mary Jo Willis, Denver Zoo and Anne Tieber, St. Louis Zoo
 - Artificial Insemination project at St. Louis Zoo
 - Support of in-situ field work with Ikh Nart Nature Reserve, Mongolia.
- Asian Vulture Initiative – Scott Tidmus, Disney's Animal Kingdom
 - Asian SAVE (Saving Asian Vultures from Extinction) program to support their new reintroduction programs throughout Asia. This organization has been supported by this TAG and its members, since it was created in 2011 to address the Asian Vulture Crisis and the large loss of vultures to the veterinary drug Diclofenac.
 - Currently the program is in the recovery phase where they are beginning to release birds back into the wild that were reared at the breeding facilities; which were supported by AZA institutions.
- Lappet-faced Vulture - Mike McGrady, Environment Society of Oman
 - Supporting Conservation Advisor and researcher, Mike McGrady, with an ongoing project to study and monitor the lappet-faced vulture population in Oman – one of the last strong populations of this species currently found in Asia and the Arabian Peninsula.
- African Vulture SAFE
 - Five of the African vulture species considered within this program are all a part of the Raptor TAG. However, four of the African vulture species have been shifted to TAG Monitored status, as they do not meet current criteria for continued management at the SSP level. Rüppell's vulture will continue as an SSP and is considered a yellow level program. This is mostly due to the small number of individuals in the collection and the changes in the management of animal programs within AZA. However, a few institutions have already successfully bred several of the other species and there is potential to grow these populations to become SSPs again in the future. Despite this change in listing, the TAG will continue to work with African Vultures SAFE and all of our conservation partners to continue to support these captive programs and field initiatives. While the total number of institutions currently displaying African vulture species is small, many AZA institutions house vulture or condor species from around the world and there is potential to use these non-African vulture species as ambassadors for the African vulture SAFE program.
 - Continue to focus education and breeding programs to enhance the AZA African Vulture SAFE Program species associated with this TAG. SAFE offers an opportunity for AZA institutions to collaborate with each other and field partners towards concerted efforts to reduce threats leading to declines in threatened species following the SAFE Action Plan. African Vulture SAFE recently completed their initial 3-year action plan, which can be found at <https://www.raptortag.com/safe.html> and is currently finalizing the next three-year action plan which will operate from 2022 to 2025. This will be available on the Raptor TAG and AZA websites soon. For further details on the program and to get involved, please email the current African Vultures SAFE program leader Corinne Kendall (Corinne.Kendall@nczoo.org)

DEFINITIONS

INTERNATIONAL UNION FOR CONSERVATION OF NATURE (IUCN)

IUCN Red Data List Categories and Criteria, Version 3.1.

Extinct (EX)

A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), and throughout its historic range have failed to record an individual. Surveys should be over a period appropriate to the taxon's life cycle and life form.

Extinct in the Wild (EW)

A taxon is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalized population/s well outside the past range. A taxon is presumed Extinct in the Wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), and throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

Critically Endangered (CE)

A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered (see IUCN Red Data List Categories and Criteria, Version 3.1), and it is therefore considered to be facing an extremely high risk of extinction in the wild.

Endangered (EN)

A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered (IUCN Red Data List Categories and Criteria, Version 3.1), and it is therefore considered to be facing a very high risk of extinction in the wild.

Vulnerable (VU)

A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable (IUCN Red Data List Categories and Criteria, Version 3.1), and is therefore considered to be facing a high risk of extinction in the wild.

Near Threatened (NT)

A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered, or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.

Least Concern (LC)

A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.

Data Deficient (DD)

A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat. Listing in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate. It is important to make positive use of whatever data are available. In many cases, great care should be exercised in choosing between DD and a threatened status. If the range of a taxon is suspected to be relatively circumscribed, and a considerable period of time has elapsed since the last record of the taxon, threatened status may well be justified.

Not Evaluated (NE)

A taxon is Not Evaluated when it has not yet been evaluated against the criteria.

UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
USFWS Service Glossary of terms

Endangered – An animal or plant species in danger of extinction throughout all or a significant portion of its range.

Threatened – An animal or plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Not Listed (NL) – This species is not listed by the USFWS

CITES

Appendix I - includes all species threatened with extinction, which are or may be affected by trade. Trade in specimens of these species must be subject to particularly strict regulation in order not to endanger further their survival and must only be authorized in exceptional circumstances.

Appendix II - includes i) all species which although not necessarily now threatened with extinction may become so unless trade in specimens of these species is subject to strict regulation in order to avoid utilization incompatible with their survival; and ii) other species which must be subject to regulation in order that trade in specimens of certain species referred to in subparagraph (a) above may be brought under effective control [e.g. species that are similar in appearance to those included in Appendix I].

Appendix III - includes all species, which any Party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation, and as needing the cooperation of other Parties in the control of trade.



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