

Snowy Owl

Bubo scandiacus

Wizards of the north



Species Status

IUCN: Least Concern

ESA Status: Not Listed

CITES: Appendix II

TAG: Raptor TAG

AZA SSP DESIGNATION: Yellow

GEOGRAPHIC REGION: Asia, Europe, North America

BIOME: Tundra

EXHIBIT DESIGN AND MANAGEMENT

HUSBANDRY AND CARE

SPECIAL EXHIBIT CONSIDERATION

Outdoor Climate Conditions:	optimal temperature range 32-70F; easily overheated so avoid temperatures of 90+F for long periods of time, unless given indoor access to HVAC
Substrate:	pea gravel or soil; be cautious using mulch as snowy owls susceptible to Aspergillus
Indoor Conditions:	optimal temperature range 32-70F; HVAC necessary to have back-up protocols; indoor air exchange 5-10 times per hour; air filtration necessary to limit fungal contamination
Ideal Carrying Capacity:	breeding pair with young
Size of Space:	minimum size for breeding pair 19.7' x 13.1' x 12.1'; holding/introduction space 5' x 10' x 10'
Complexity of Space:	perching opportunities provided including ground perching and trees at least 5-10 ft high; holding aviary connected to side of exhibit for introductions or holding; exhibit with enclosed top to avoid predation
Breeding Environment:	nest on the ground

OPTIMAL EXHIBIT FEATURES

Cooling features, Light cyclicity need, Perching area, Sunlight/basking area, Visual barriers from conspecifics

SPECIES APPEAL

- Unique adaptation/physical characteristics
- North American native species
- Major cultural/anthropological significance
- Well established husbandry
- Ambassador animal

MESSAGING OPPORTUNITIES

- Native species conservation
- Human-wildlife conflict
- Keystone species
- Climate change

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MULTI - SPECIES EXHIBIT OPPORTUNITIES

- none identified

NON - SSP SPECIES THAT COULD BE SUBSTITUTED BY SNOWY OWL

- none identified

SPECIES BIOLOGY	
Activity pattern:	Diurnal
Potential risk to humans:	Sharp bill or beak, Sharp Claws
Diet	whole prey items including mice, rats, and day old chicks; recommended to monitor and feed birds without being seen
Health and Veterinary	prone to Aspergillus; avian malaria, and West Nile virus; vaccination for West Nile virus and regular boosters recommended
Social	kept in pairs or as singletons
OFFSPRING HOUSING and REPRODUCTION	
General Offspring Holding:	institution expected to hold for at least 2 years
Weaning, Fledging or Metamorphosis:	45 days
General Offspring with Parent:	up to 1 years
Number of Offspring per Reproductive Event:	1-2
Gestation or Incubation:	32 days

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SSP SUSTAINABILITY PROFILE

Current Size: 63 (32.31.0) at 31 institutions (8 non-AZA)

SSP Coordinator: Justin Hickman
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CURRENT POPULATION SUMMARY

The Raptor TAG has set a target population size of 100 animals in the Snowy Owl SSP population. The managed population has been stable ($\lambda = 0.99$) historically, and has retained 95.72% of its founding gene diversity.

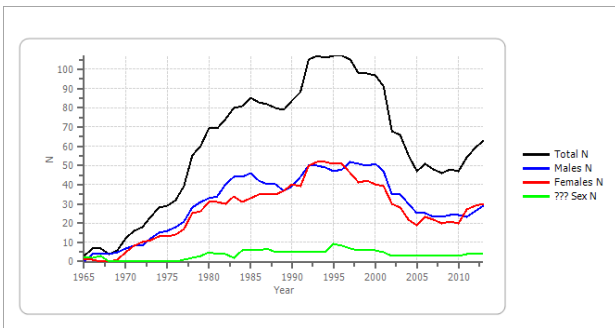


Figure 1: Census of managed snowy owls in the AZA population over time, by sex. Breeding and Transfer Plan 2014

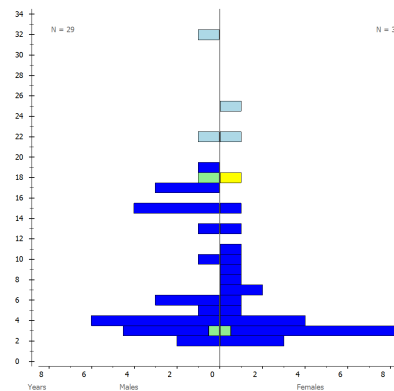


Figure 2: Age pyramid of the AZA snowy owl population. Breeding and Transfer Plan 2014

PROJECTED POPULATION SUMMARY

Population Viability Analysis has not yet been conducted for this population. Estimates indicate the gene diversity is likely to be reduced to 18% over the next 100 years under current management trends.

No Image available

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CHALLENGES TO SSP POPULATION SUSTAINABILITY

CHALLENGE	GOAL	ACTION	NEED
Reproduction	Improve protocols for natural reproduction	Research reproductive biology	Changing the photoperiod to match seasonal day length patterns in nature may affect breeding success for this species. A study to compare the breeding behaviors of pairs under various photoperiods is needed to elucidate this relationship and improve reproductive success.
	Increase reproductive output	Adhere to breeding and transfer recommendations from the SSP	Analysis from the 2014 Breeding and Transfer Plan indicate that seven to nine hatches per year are required to maintain the current population, and ten to thirteen hatches per year are required to reach the target population size (150) in 25 years.

REPRODUCTIVE TECHNOLOGIES AVAILABLE

- Egg sexing

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ACQUISITIONS AND TRANSFERS

IMPORTS, EXPORTS AND REINTRODUCTIONS

Imports	Rehabilitated founder birds are possible to be "imported" into the population from North American rescue facilities, but no placement is planned at this time.
Exports	There are no plans to export at this time.

CHALLENGES TO ACQUISITIONS AND TRANSFERS

Disease Testing	West Nile virus is a major challenge for transfers.
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*DISCLAIMER: This report was last updated on 04/27/2018. The AZA Species Sustainability Database and SSP Sustainability Reports were developed through funding from the Institute of Museum and Library Services. Content is based on Animal Program recommendations and does not necessarily reflect the opinion of the Association of Zoos and Aquariums or other collaborating institutions. Modeling results and analyses are based on the best understanding of the current population dynamics and should not be regarded as absolute predictions. The use of this report should be in accordance with all local, state, and federal laws and regulations. Some government laws and regulations may be referenced, but these are not all-inclusive nor is this report intended to serve as an evaluation tool. Please consult the SSP Coordinator if you are considering incorporating this species into a zoo or aquarium, or with questions regarding husbandry practices.