Burrowing Owl

Athene cunicularia

Small bird, big attitude

Photo credit: Sara Hallager

Photo credit: John Kiseda

Species Status

IUCN: Least Concern
ESA Status: Not Listed
CITES: Appendix II
TAG: Raptor TAG
AZA SSP DESIGNATION: Yellow

Government Owned Species

GEOGRAPHIC REGION: North America, South America
BIOME: Grassland

EXHIBIT DESIGN AND MANAGEMENT

HUSBANDRY AND CARE

SPECIAL EXHIBIT CONSIDERATION	
Outdoor Climate Conditions:	wide tolerable temperature range (15 - 111F), with areas to retreat from extreme temperatures
Substrate:	variety of natural substrates including sand, mulch, dirt, and grass
Ideal Carrying Capacity:	maximum 1.1 adults, unless exhibit is extremely large; separate holding available for offspring over 1 year old
Size of Space:	exhibits range from 32-700 sq ft
Complexity of Space:	perching areas from 18" above ground level to top of exhibit with an unobstructed view of surroundings; open areas on ground are necessary; howdy space or crate in exhibit with window coverings gradually removed during introductions
Breeding Environment:	nest box typically composed of a plastic irrigation box 19" x 14" x 11" (L x W x H); if available, tunnels to nest boxes 4-6" in diameter; seasonal breeding with 77% hatches occurring April-June; close proximity of the public may decrease breeding success

OPTIMAL EXHIBIT FEATURES
Areas for privacy or hiding, Perching area

SPECIES APPEAL

- Reintroduction
- Unique adaptation/physical characteristics
- Very active animal or high visibility
- Warm weather tolerant
- Cold weather tolerant
- Ambassador animal
- Multi-species opportunities
- Well established husbandry
- Animals typically available for new placement
- North American native species
- Inexpensive to hold (less than $1000 per year)

MESSAGING OPPORTUNITIES

- Native species conservation
- Reintroduction

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MULTI - SPECIES EXHIBIT OPPORTUNITIES

- Quail, Gambel's
- Jay, Purplish-Backed
- Jay, Green
- Tortoise, Gopher
- Magpie, Azure-Winged
- Dove, White-Winged
- Bird (Various spp.) - Perching
- Prairie Dog, Black-Tailed
- Owl, Eastern Screech
- Rabbit, Eastern Cottontail
- Armadillo, Nine-Banded
- Turtle (Various spp.) - Terrestrial
- Roller, Lilac-breasted
- Mynah, Bali
- Jay, Scrub
- Owl, Western Screech
- Guineafowl, Crested
- Chachalaca, Plain
- Kestrel, American
- Tortoise, Agassiz's Desert
- Bird (Various spp.) - Shore
- Roadrunner, Greater
- Squirrel, Richardson's Ground
- Bird (Various spp.) - Waterfowl, Small
- Squirrel, Delmarva Fox

NON - SSP SPECIES THAT COULD BE SUBSTITUTED BY BURROWING OWL

- none identified

SPECIES BIOLOGY	
Activity pattern:	Diurnal
Potential risk to humans:	None
Diet	15.5 +/- 1.86 Kcal/day; whole mice with supplemental crickets and mealworms for nutrition and enrichment
Social	Owls may become aggressive towards other animals during breeding season

OFFSPRING HOUSING and REPRODUCTION	
Weaning, Fledging or Metamorphosis:	10 weeks
Number of Offspring per Reproductive Event:	2
Gestation or Incubation:	30 days
General Offspring with Parent:	1 year
General Offspring Holding:	institutions expected to hold for up to 4 months

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SSP SUSTAINABILITY PROFILE

Current Size: 156 (54.74.28) at 47 institutions (2 non-AZA)

SSP Coordinator: Yvonne Strode (ystrode@peoriazoo.org)

CURRENT POPULATION SUMMARY

The Raptor TAG has set a target population size of 170 animals in the Burrowing Owl SSP population. The managed population has been stable (**λ =** 1.04) historically, and has retained 92.57% of its founding gene diversity.

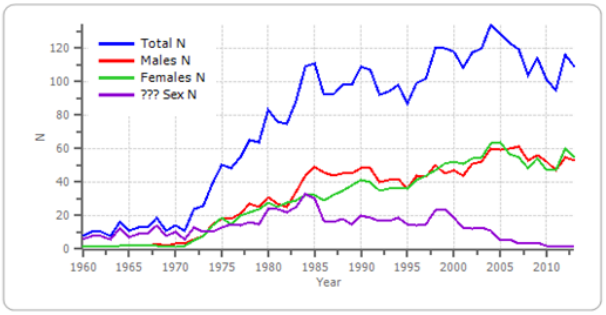

Figure 1: Census of managed burrowing owls in the AZA population over time, by sex.Breeding and Transfer Plan 2014

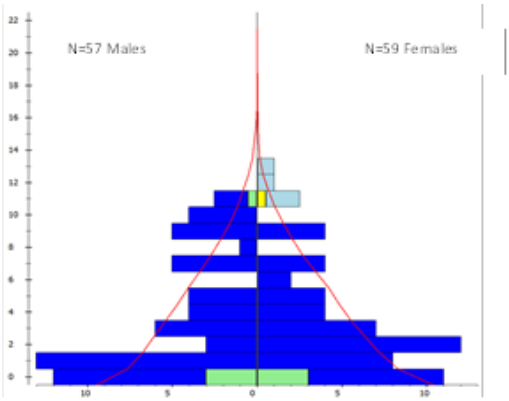

Figure 2: Age pyramid of the AZA burrowing owl population. Breeding and Transfer Plan 2014

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 57% 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
Genetics	Improve founder representation	Improve institutional cooperation or communication	Institutional Representatives (IRs) at facilities that receive wild-born, rescued, and unreleasable birds are asked to communicate with the SSP Coordinator so that these genetically valuable individuals can be placed into breeding situations (if health allows). These potential founders represent a source of gene diversity that is critical to the long-term sustainability of the population, and their care and placement is important for SSP management.
Population Size	Reach high population size to aid reintroduction effort	Increase enhancement support, funding support, or range-country partner engagement	Sustainability of this population is tied to the reintroduction program in Canada. Institutions could better support and engage with this project, so that commitment to the population and the species conservation is stronger.
Reproduction	Improve protocols for natural reproduction	Relate husbandry practices to animal health or reproductive success	The SSP will be collecting information on exhibit and husbandry practices from institutions with a history of breeding success, as well as institutions that have experienced lower success, in order to identify similarities and differences between the two groups. This effort should help optimize and standardize practices and breeding success across institutions.

REPRODUCTIVE TECHNOLOGIES AVAILABLE

- None

ADDITIONAL RESEARCH OPPORTUNITIES

- Understanding of the causes of some pairs' lack of reproductive success by analyzing the results of historically unsuccessful, recently re-paired birds
- Identification of the injuries, if any, that are likely to prevent individuals from successfully reproducing
- Determination of the exact exhibit design that leads to nesting success

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ACQUISITIONS AND TRANSFERS

IMPORTS, EXPORTS AND REINTRODUCTIONS	
Exports	There are no plans to export individuals from the SSP populations to other zoological regions. However, individuals may leave the population for wild release from certain institutions.
Reintroduction	Several Canadian institutions are involved in reintroduction programs.
Imports	Importation of non-releasable wild-caught birds into the SSP population occurs regularly.

CHALLENGES TO ACQUISITIONS AND TRANSFERS	
Other	Clear instruction is available from the SSP for institutions that are uncertain of imports into U.S. facilities from Canadian institutions.
Regulatory	Migratory Bird Treaty Act regulations have hindered some transfers.