18th November 2022

APPENDIX to article on Golden Parakeet from www.birdkeeper.dk:

GOLDEN PARAKEET - ABOUT CONSERVATION AND THREATS ACCORDING TO U. S. FISH AND WILDLIFE SERVICE

The Endangered Species Act of 1973 ("The Act" or just "ESA") is the primary law in the United States of America for protecting threatened species. ESA is considered a landmark conservation law and academic researchers have referred to it as "one of the nation's most significant environmental laws". It has also been called "one of the most powerful environmental statutes in the U.S. and one of the world's strongest species protection laws". Yet, I was somewhat surprised to learn that under this law, the U.S. Fish and Wildlife Service makes their own status reports that among many other things also cover their own threat assessments of animal species that live in other countries around the world, including also a large number of parrot species, work that normally is carried out by the IUCN (Red List) and BirdLife International. It would be going too far in this article to write more about the ESA, but it is significantly more binding than the corresponding work made by other - international, not national - bodies/institutions and there are very strict penal provisions attached to the law which means that the American legislators really have put every effort in to try to protect endangered animal species. Thus the U. S. Fish and Wildlife Service has also made their own - very detailed - "Species Status Assessment Report" (SSA) for the Golden Parakeet which was intended to provide the biological support for the decision on whether or not to delist or down list this species from its current designation as endangered under the ESA.

It was in February 2018 that U.S. Fish and Wildlife Service prepared a report, "Species Status Assessment Report for Golden Conure (***Guaruba guarouba***)", Version 1.0, which is a species status report on the Golden Parakeet that provides information on its biology, status, conservation, treats and possible future based on 3 different scenarios and many other things. In many ways, this report provides a number of new information - as well as new angles on already known information - about the Golden Parakeet made by the United States' own conservation authority.

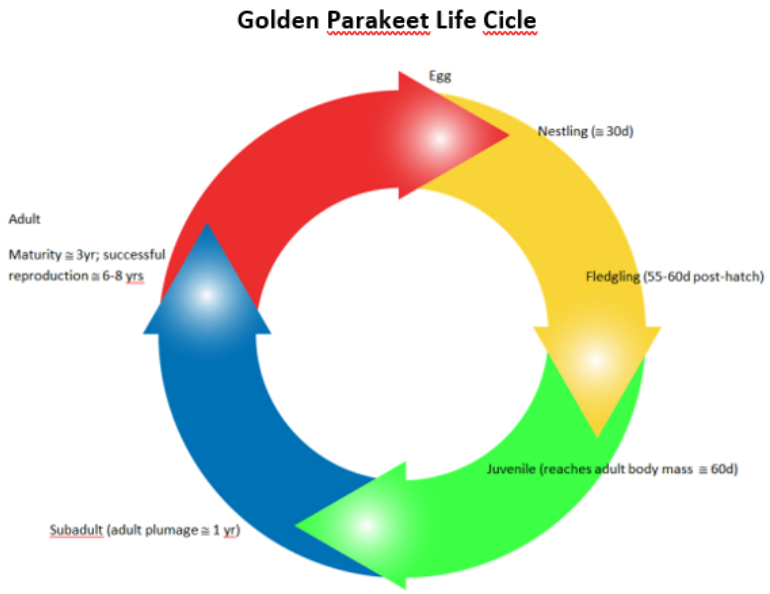
The report shows that the Golden Parakeet needs multiple resilient populations widely distributed across its range to maintain persistence into the future and to avoid extinction. A number of factors influence whether the Golden Parakeet will maximize occupancy in suitable habitat which increases the resiliency of the population to unpredictable events that can affect population and community dynamics. These factors among several other things also include:

- Large patches of intact rainforest on "solid ground habitat" (unflooded rainforest habitat where Golden Parakeets most often occur)
- Quality habitat for breeding and roosting (i.e., old growth hardwood trees for cavity nesting and roosting)
- Quality habitat for foraging (i.e., fruiting vegetation within a forest area)
- Connectivity between the large patches of rainforest with "solid ground habitat".

U.S. Fish and Wildlife Service assessed the Golden Parakeet's current and future viability by measuring its resiliency, redundancy and representation (together, "the 3Rs"). The analysis indicated that this species faces the most risk from loss and degradation of its habitat from deforestation (i.e., originating from multiple anthropogenic activities). This risk is expected to be intensified by synergistic effects associated with climate change. Climate projections include increased temperatures, dryer conditions, and more extreme weather

(including droughts) which have the potential to affect trees negatively and cause tree mortality. These conditions also increase the unintentional spread of fires further contributing to deforestation. The successful implementation of existing forest law and an extensive network of protected areas may help to mitigate some of these risks, but overall, long term declines are projected for the Golden Parakeet and its habitat. Nevertheless, it is important that protected areas are managed properly and are well maintained in the future.

The report also contains a life cycle diagram for the Golden Parakeet:



Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Breeding	Breeding	Breeding	Breeding PRP1)	PRP1)	PRP1)	PRP1)	PRP1)			Breeding	Breeding
Rainy season 2) 600 - 1.000 mm			End of rainy season 2) 400 - 700 mm			Dry season 2) 150 - 350 mm			Beginning of rainy season 2) 400 - 600 mm		

Annotations:

1) Post-reproductive period (when first year juveniles can be seen in the flocks at feeding sites).

2) Measurements in the "season" cells represent the range of precipitation in millimeters (mm) for the months noted.

Diagram:

Guaruba guarouba: *Simple life cycle diagram for the Golden Parakeet according to U.S. Fish and Wildlife Service. The annual breeding cycle and post reproductive period by month and season are also indicated.*

U.S. Fish and Wildlife Service used the best available information to forecast future plausible conditions for the Golden Parakeet under three different scenarios: 1) Status quo, 2) Conservation, and 3) Considerable effects). The assumptions associated with each scenario are shortly mentioned in the following:

Scenario 1: Status quo

Under this scenario, the Golden Parakeet's future viability is expected to be characterized by lower resiliency, redundancy and representation than it exhibits under the current conditions. Declines are expected in its habitat and the global population to reach approximately 30 % in 22 years. Additional decreases in both of these rates are likely in the longer term due to synergistic effects associated with climate change. Under this scenario, some proportion of protected areas would remain. However, the decline in forest habitat will likely relate to declines in nesting tree abundance, extent of the range and connectivity between remaining forested tracts. Therefore, the overall future condition is estimated to be low.

Scenario 2: Conservation

Under this scenario, the Golden Parakeet's future viability is also expected to be characterized by lower resiliency, redundancy and representation than it exhibits under the current conditions. Declines are expected in its habitat and the global population to reach approximately 23 % in 22 years. Additional decreases in both of these rates are likely in the longer term due to synergistic effects associated with climate change. The species' abundance and population growth are expected to decline, but at a slower rate than would be experienced under status quo. Efforts to increase the percentage and quality of protected areas would likely result in better conservation of nesting trees and connectivity between remaining forested areas. Under this scenario, the largest proportion of protected areas would remain. However, because this level of deforestation would still likely result in declines in abundance and population growth, the overall future condition is estimated to be medium.

Scenario 3: Considerable effects

Under this scenario, the Golden Parakeet's future viability is expected to be characterized by much lower resiliency, redundancy and representation than it exhibits under the current conditions. Declines are expected in its habitat and the global population to be greater than 40 % in 22 years. Additional and significant decreases in both of these rates are likely in the longer term due to synergistic effects associated with severe climate change. Projected decline in forest habitat (coupled with climate change effects) relate to declines in all demographic and habitat factors which explains the low estimates for these factors and for the overall future condition.

All in all, due to the fact that the Golden Parakeet is strongly forest-dependent, it was assumed that, over time, the % of forest loss will correspond, almost one to one, with declines in the global population of this species.

Jørgen Petersen

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