

Mariana Swiftlet or Chachaguak
(Aerodramus bartschi)

5-Year Review
Summary and Evaluation

U.S. Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
Honolulu, Hawaii

5-YEAR REVIEW

Species reviewed: Mariana Swiftlet or Chachaguak (*Aerodramus bartschi*)

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5-YEAR REVIEW
Mariana Swiftlet or Chachaguak /*Aerodramus bartschi*

1.0 GENERAL INFORMATION

1.1 Reviewers

Lead Regional Office:

Region 1, Endangered Species Program, Division of Recovery, Jesse D'Elia,
(503) 231-2071

Lead Field Office:

Pacific Islands Fish and Wildlife Office, Loyal Mehrhoff, Field Supervisor, (808)
792-9400

Cooperating Field Office(s):

N/A

Cooperating Regional Office(s):

N/A

1.2 Methodology used to complete the review:

This review was conducted by staff of the Pacific Islands Fish and Wildlife Office (PIFWO) of the U.S. Fish and Wildlife Service (USFWS) between June 2008 and July 2009. The Guam Division of Aquatic and Wildlife Resources and Commonwealth of the Northern Mariana Islands annual reports were the primary sources of information for this five-year review. However, updates on the status and biology of the species were also obtained from other published and unpublished reports. The draft five-year review was then reviewed by the Vertebrate Recovery Coordinator, Assistant Field Supervisor for Endangered Species, and Acting Deputy Field Supervisor before submittal to the Field Supervisor for approval.

1.3 Background:

1.3.1 FR Notice citation announcing initiation of this review:

USFWS. 2008. Endangered and threatened wildlife and plants; initiation of 5-year status reviews for 70 species in Idaho, Montana, Oregon, Washington, and the Pacific Islands; Notice of Review. Federal Register 73(83):23264-23266.

1.3.2 Listing history

Original Listing

FR notice: USFWS. 1984. Endangered and threatened wildlife and plants; determination of endangered status for seven birds and two bats on Guam and the Northern Mariana Islands. Federal Register 49:33881-33885.

Date listed: August 27, 1984

Entity listed: Species

Classification: Endangered

Revised Listing, if applicable

FR notice: N/A

Date listed: N/A

Entity listed: N/A

Classification: N/A

1.3.3 Associated rulemakings:

1.3.4 Review History:

Species status review (FY 2009 Recovery Data Call (September 2009)):
Increasing

1.3.5 Species' Recovery Priority Number at start of this 5-year review:

2

1.3.6 Current Recovery Plan or Outline

Name of plan or outline: Recovery Plan for the Mariana Islands Population of the Vanikoro Swiftlet, *Aerodramus vanikorensis bartschi*

Date issued: September 30, 1991

Dates of previous revisions, if applicable: NA

2.0 REVIEW ANALYSIS

2.1 Application of the 1996 Distinct Population Segment (DPS) policy

2.1.1 Is the species under review a vertebrate?

Yes
 No

2.1.2 Is the species under review listed as a DPS?

Yes
 No

2.1.3 Was the DPS listed prior to 1996?

Yes

No

2.1.3.1 Prior to this 5-year review, was the DPS classification reviewed to ensure it meets the 1996 policy standards?

Yes

No

2.1.3.2 Does the DPS listing meet the discreteness and significance elements of the 1996 DPS policy?

Yes

No

2.1.4 Is there relevant new information for this species regarding the application of the DPS policy?

Yes

No

2.2 Recovery Criteria

2.2.1 Does the species have a final, approved recovery plan containing objective, measurable criteria?

Yes

No

2.2.2 Adequacy of recovery criteria.

2.2.2.1 Do the recovery criteria reflect the best available and most up-to date information on the biology of the species and its habitat?

Yes

No

2.2.2.2 Are all of the 5 listing factors that are relevant to the species addressed in the recovery?

Yes

No

2.2.3 List the recovery criteria as they appear in the recovery plan, and discuss how each criterion has or has not been met, citing information:

The threats affecting this species (Factors A, C and E¹) are discussed in detail in section 2.3.2 and the 1991 recovery plan. Factors B and D are not considered threats at this time.

¹ Threats are classified as the following five factors:

A. Present of threatened destruction, modification or curtailment of its habitat or range;

The 1991 recovery plan included interim downlisting criteria for the chachaguak and identified revising the recovery criteria as a recovery action. These interim downlisting criteria call for a population of 2,000 birds distributed among five caves on Guam (a minimum of two occupied caves should occur in each of northern and southern Guam), 2,000 birds on Rota (no criteria on number of caves), 1,000 birds on Aguiguan distributed among five caves, and 2,000 birds distributed among five caves on Saipan (Factor E). No criteria addressing listing factors A and C were included due to lack of data.

At this time the population criteria identified in the recovery plan have not been met. The population on Saipan currently exceeds 5,000 individuals distributed among at least four known caves (Cruz *et al.* 2008) which satisfy the goals for the Saipan population. However, chachaguak have not been reestablished on the island of Rota and the population on Aguiguan is believed to be fewer than 500 individuals (Cruz *et al.* 2008). In addition, the chachaguak population in southern Guam likely exceeds 900 individuals (A. Brooke, U.S. Navy, pers. comm. 2008), but there are no known chachaguak colonies in northern Guam.

2.3 Updated Information and Current Species Status

2.3.1 Biology and Habitat

2.3.1.1 New information on the species' biology and life history:

Chachaguak produce a single egg which is incubated for approximately 23 days with fledging occurring after 47 days (Reichel *et al.* 2007). Both adults care for the nestling which is, on average, fed by each adult 1.8 times a day (Morton and Amidon 1996). Assessment of guano on Saipan indicate Hymenoptera, especially flying ants (Formicidae), were the most common insect prey of chachaguak followed by Coleoptera (Kershner *et al.* n.d.).

2.3.1.2 Abundance, population trends (e.g. increasing, decreasing, stable), demographic features (e.g., age structure, sex ratio, family size, birth rate, age at mortality, mortality rate, etc.), or demographic trends:

Currently, chachaguak populations are known only to occur on the islands of Guam, Aguiguan, and Saipan. Since the publication of the recovery plan, annual monitoring of chachaguak populations at selected caves has been conducted on Guam and Saipan. Only sporadic monitoring has

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- B. Overutilization for commercial, recreational, scientific, or educational purposes;
 - C. Disease or predation;
 - D. Inadequacy of existing regulatory mechanisms;
 - E. Other natural or manmade factors affecting its continued existence.

occurred on Aguiguan due to logistical difficulties. On both Saipan and Guam chachaguak populations have increased at the caves that have been monitored while populations appear to be fairly stable on Aguiguan (Cruz *et al.* 2008; A. Brooke, U.S. Navy, pers. comm. 2008).

2.3.1.3 Genetics, genetic variation, or trends in genetic variation (e.g., loss of genetic variation, genetic drift, inbreeding, etc.):

No new information.

2.3.1.4 Taxonomic classification or changes in nomenclature:

The chachaguak was classified as a distinct species by the American Ornithologists Union (1998; Banks *et al.* 2002).

2.3.1.5 Spatial distribution, trends in spatial distribution (e.g. increasingly fragmented, increased numbers of corridors, etc.), or historical range (e.g. corrections to the historical range, change in distribution of the species within its historical range, etc.):

In 1998 chachaguak re-colonized a cave in southern Guam which was abandoned prior to 1984 (A. Brooke, pers. comm. 2008; USFWS 1991). Chachaguak remains were also excavated from a site on Tinian providing further evidence that the species once occurred on that island (Steadman 1999).

2.3.1.6 Habitat or ecosystem conditions (e.g., amount, distribution, and suitability of the habitat or ecosystem):

No new information.

2.3.1.7 Other:

No new information.

2.3.2 Five-Factor Analysis (threats, conservation measures, and regulatory mechanisms)

2.3.2.1 Present or threatened destruction, modification or curtailment of its habitat or range:

See note regarding climate change under 2.3.2.5 below.

2.3.2.2 Overutilization for commercial, recreational, scientific, or educational purposes:

No new information.

2.3.2.3 Disease or predation:

There is no new information on avian diseases. The brown treesnake (*Boiga irregularis*) is believed to be the main predator on Guam (USFWS 1991). However, monitor lizards (*Varanus indicus*) and feral cats (*Felis catus*) were observed in the main chachaguak colony on Guam (Morton and Amidon 1996) and may prey on chachaguak opportunistically on all of the islands. The black drongo (*Dicrurus macrocercus*), a bird species introduced to Guam and Rota, was also observed preying on chachaguak on Guam (Perez 1968) and may have been a factor in their extirpation on Rota. Currently, the only predator control being implemented is for brown treesnakes at two of the three colonies on Guam (A. Brooke, pers. comm. 2008).

2.3.2.4 Inadequacy of existing regulatory mechanisms:

No new information.

2.3.2.5 Other natural or manmade factors affecting its continued existence:

Impacts to nesting success caused by human disturbance at nesting colonies is considered an important threat to the species (USFWS 1991). Efforts are underway to minimize this disturbance by limiting access to caves (Cruz *et al.* 2008). On Saipan, cockroaches have been found to reduce nesting success and efforts to control cockroaches at known caves have been undertaken over the last two decades (Rice 1993, Cruz *et al.* 2008). Mud-dauber wasps are also believed to be adversely affecting chachaguak nests on Guam by attaching their nests to chachaguak nests and causing them to fall due to the excess weight (Amidon and Morton 1996). Aggressive encounters between wasps and nesting chachaguak may also be affecting nesting success.

Climate change may also pose a threat to chachaguak (Factors A and E). However, current climate change models do not allow us to predict specifically what those effects, and their extent, would be for this species.

2.4 Synthesis

The chachaguak or Mariana swiftlet is found on the islands of Guam, Aguiguan, and Saipan and in the Mariana Islands. Currently, the total population exceeds 5,000 individuals, with the majority found on the island of Saipan. Although sufficient numbers are found on Saipan to meet the interim downlisting criteria, the numbers of chachaguak on Aguiguan and Guam are below recommended levels. In addition, chachaguak have

not been reestablished on Rota as required by the interim criteria. The primary threats to the species continue to be predation by the brown treesnake and disturbance at nesting caves. However, other introduced predators and introduced insect species also may have negative impacts to the species. Efforts to minimize disturbance and control snakes at some nesting colonies have been undertaken. However, additional efforts are needed to help recover the species. Because the population goals for the species has not been met and the species is still threatened by predation and disturbance, the chachaguak meets the definition of endangered as it remains in danger of extinction throughout all of its range.

3.0 RESULTS

3.1 Recommended Classification:

Downlist to Threatened

Uplist to Endangered

Delist

Extinction

Recovery

Original data for classification in error

No change is needed

3.2 New Recovery Priority Number: 2

Brief Rationale: This priority ranking reflects the chachaguak's status as a species and the high prospects for recovery.

3.3 Listing and Reclassification Priority Number: N/A

Reclassification (from Threatened to Endangered) Priority Number: ____

Reclassification (from Endangered to Threatened) Priority Number: ____

Delisting (regardless of current classification) Priority Number: ____

Brief Rationale:

4.0 RECOMMENDATIONS FOR FUTURE ACTIONS

- Identify limiting factors for Mariana swiftlet expansion in the Commonwealth of the Northern Mariana Islands.
- Continue efforts to develop and refine brown treesnake control techniques to support large-scale control and/or eradication efforts.
- Implement large-scale brown treesnake control and/or eradication efforts on Guam.
- Develop methods for translocating Mariana swiftlets.
- Develop reintroduction plan for and reintroduce Mariana swiftlets to Rota.

- Develop reintroduction plan for and reintroduce Mariana swiftlets to northern Guam.
- Revise recovery plan.

5.0 REFERENCES

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