

5-YEAR REVIEW

Short Form Summary

Species Reviewed: *Gallirallus owstoni* (Guam rail; Ko' ko')

Current Classification: Endangered

Federal Register Notice announcing initiation of this review:

[USFWS] U.S. Fish and Wildlife Service. 2012. Endangered and Threatened Wildlife and Plants; 5-Year Status Reviews of 46 Species in Idaho, Oregon, Washington, Nevada, Montana, Hawaii, Guam, and the Northern Mariana Islands. Federal Register 77:13248- 13251.

Lead Region/Field Office:

Region 1/Pacific Islands Fish and Wildlife Office (PIFWO), Honolulu, Hawaii

Name of Reviewer:

Leilani Takano, Biologist, PIFWO

Marie Bruegmann, Acting Recovery Program Lead, PIFWO

Kristi Young, Programmatic Deputy Field Supervisor, PIFWO

Methodology used to complete this 5-year review:

This review was conducted by staff of PIFWO, U.S. Fish and Wildlife Service (USFWS). The review was based on current, available information since the last 5-year review for the Guam rail (USFWS 2009). The evaluation by Leilani Takano, Fish and Wildlife Biologist, was reviewed by Acting Recovery Program Lead. It was subsequently reviewed and approved by the Programmatic Deputy Field Supervisor.

Background:

For information regarding the species listing history and other facts, please refer to the Fish and Wildlife Service's Environmental Conservation On-line System (ECOS) database for threatened and endangered species (http://ecos.fws.gov/tess_public). The Guam rail is a flightless bird endemic to the island of Guam and was extirpated from the wild by 1985. Recent recovery actions for the Guam rail have focused on establishing and augmenting nonessential experimental populations off of Guam.

Review Analysis:

Please refer to the final listing rule for the Guam rail published on August 27, 1984 (available at http://ecos.fws.gov/docs/federal_register/fr875.pdf), the previous 5-year review published on July 29, 2009 (available at http://ecos.fws.gov/docs/five_year_review/doc2529.pdf) and the recovery plan published in 1990 (available at http://ecos.fws.gov/docs/recovery_plan/900928b.pdf) for a complete discussion of the species' status (including biology and habitat), threats, and management efforts. No significant new information regarding the biological status has come to light since listing to warrant a change in the federal listing status of the Guam rail.

New status information:

Currently, a captive population of approximately 40 rails is kept in U.S. mainland zoos and 130 rails are located at the Guam Division of Aquatic and Wildlife Resources (DAWR) facility. Since 1989 and 2010, efforts have been underway to establish nonessential populations on the islands of Rota and Cocos, respectively. On Cocos Island (a small islet approximately 1.6 kilometers (1 mile) off the southern coast of Guam), 26 banded rails were introduced between 2010 and 2012. The rails are successfully breeding on Cocos; 16 nests and 12 chicks have been observed. Sightings of unbanded adults have been documented in all areas on Cocos Island. On Rota, an annual rail survey was conducted in July 2013. Based on the detection of 101 Guam rails during the survey, DAWR estimates a population of 125 rails on Rota (S. Medina, DAWR, pers. comm. 2013).

New threats:

- Agricultural and urban development loss or degradation of habitat – The Guam rail prefers edge habitat or secondary forest vegetation (Jenkins 1979; P. Wenninger, DAWR, pers. comm. 2008, as cited in USFWS 2009). With an increase in development on Guam, it is expected that edge habitat would increase. However, the extent of these changes is unknown at this time as vegetation changes on the island are not closely monitored.
- Nonnative snake predation – The brown treesnake (*Boiga irregularis*) continues to limit efforts to reestablish rails on Guam.
- Cat predation – Feral cats (*Felis silvestris*) continue to limit efforts to reestablish rails on Guam. Rodent predation or herbivory – Because rats (*Rattus* spp.) have been eradicated and are absent from Cocos Island, there is concern about rats being reintroduced to Cocos Island; and thus negatively impacting Guam rails. In July 2014, a ship grounding occurred 0.5 nautical miles from Cocos and response boats and a salvage operation proceeded from the southern coast of Guam, not from Cocos Island (as recommended by the Service). Effective communication and coordination with the Coast Guard and other agencies in the event of ship groundings are important in preventing the reintroduction of rats onto Cocos Island. In addition, DAWR implements a Cocos Island biosecurity plan in cooperation with the Cocos Island Resort.

New management actions:

- Management unit planning – On Guam, there are no new management actions at this time. However, a management plan will be developed for the 55-hectare area on AAFB. The plan will consider the reintroduction of the Guam rail to this site.
- Predator / herbivory monitoring and control
 - On Rota, a cat control project began in February 2012 for the Mariana crow. However, because the cats are free roaming, this project also benefits Guam rails that have been introduced to Rota. As of June 2014, 624 cats have been removed from areas around crow territories (D. Horowski, University of Washington, pers. comm. 2014). A greater intensity of effort will be initiated by the Institute for Wildlife Studies by the end of 2014.

- Brown treesnake eradication and control using acetaminophen, as a toxicant to the snake, is being conducted within 55-hectare snake-fenced area on Anderson Air Force Base (AAFB), Guam. This project may result in the development of a method to reduce snake numbers enough to allow for rails to persist within snake-fenced areas on Guam.
- On Rota, telemetry data suggest rails are predated by feral cats.

Synthesis:

The Guam rail is endemic to the island of Guam and was extirpated from the wild by 1985. Recent recovery actions for the Guam rail have focused on establishing and augmenting nonessential experimental populations off of Guam. Brown treesnake and cat predation continue to be a major threat, and development of control methods continue for the treesnake. Because a wild population of rails has not been established on Guam and large-scale control of brown treesnakes and feral cats has not been undertaken, the recovery goals for this species have not been met. Therefore, the Guam rail still meets the definition of endangered as it remains in danger of extinction.

Recommendations for Future Actions:

Recovery implementation for the Guam rail should include the following:

- Captive propagation for genetic storage and reintroduction – Continue efforts to maintain an active captive propagation and reintroduction program.
- Predator / herbivory monitoring and control
 - Continue efforts to develop and refine brown treesnake control techniques and support small-scale and large-scale control and/or eradication efforts on Guam.
 - Implement large-scale feral cat control and/or eradication.
- Population viability monitoring and analysis – Continue population and demographic monitoring on Cocos Island and Rota.
- Reintroduction / translocation
 - Consider alternative sites for establishing other experimental populations.
 - Develop reintroduction plan for Guam rails on Guam and set aside and protect recovery areas for Guam rails on Guam.
- Revise recovery objectives and criteria – Revise recovery plan.

Table 1. Status and trends of the Guam rail from listing through current 5-year review.

Date	Estimated Number	Downlisting Criteria Identified in Recovery Plan	Downlisting Criteria Completed?

1984 (listing)	No individuals in the wild (In 1983, 22 rails were captured in the wild and moved to captive facilities)	Population of a minimum of 2,000 rails on Guam (1,000 in northern Guam and 1,000 in southern Guam). The population would be maintained for at least 5 consecutive years, and should be re-evaluated.	No
		Brown treesnakes are controlled or eradicated on Guam	No
1999 (unpublished DAWR report on captive propagation of rails)	120 individuals at the DAWR captive facility; No data on number of individuals at mainland zoos but report states that 14 rails hatched at mainland zoos.	Population of a minimum of 2,000 rails on Guam (1,000 in northern Guam and 1,000 in southern Guam). The population would be maintained for at least 5 consecutive years, and should be re-evaluated.	No
		Brown treesnakes are controlled or eradicated on Guam	No
2009 (5-year review)	158 (104 on Guam) individuals in 16 (including Guam) captive propagation facilities and experimental population of approximately 60 to 80 individuals.	Population of a minimum of 2,000 rails on Guam (1,000 in northern Guam and 1,000 in southern Guam). The population would be maintained for at least 5 consecutive years, and should be re-evaluated.	No
		Brown treesnakes are controlled or eradicated on Guam	No

2014 (5-year review)	170 (130 on Guam) individuals in 16 (including Guam) captive propagation facilities and experimental population of approximately 150 individuals.	Population of a minimum of 2,000 rails on Guam (1,000 in northern Guam and 1,000 in southern Guam). The population would be maintained for at least 5 consecutive years, and should be re-evaluated.	No
		Brown treesnakes are controlled or eradicated on Guam	No

Table 2. Status of threats to the Guam rail and current conservation efforts.

Threat	Listing Factor	Current Status	Conservation/ Management Efforts
Habitat loss or degradation	A	insufficient data	No
Introduced predators	C	ongoing	Partially; brown treesnake control efforts are ongoing; cat control on Rota began in 2012
Human persecution	E	insufficient data	No
Typhoons	E	ongoing	No
Reproductive and small population problems	E	ongoing	Partially; efforts are underway to maintain and augment two experimental populations and continue breeding program.
Disease	C	insufficient data	No

References:

See previous 5-year review for a full list of references. References for new information are provided below.

[USFWS] U.S. Fish and Wildlife Service. 2009. Ko'ko' or Guam rail (*Gallirallus owstoni*) 5-year review summary and evaluation; Pacific Islands Fish and Wildlife Office, Honolulu, Hawaii. 11 pages.

Personal Communications

Horowski, Dane. 2014. Predator Control Biologist, Rota Predator Control Project, University of Washington, Seattle, Washington. E-mail to Julia Boland, U. S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office, dated June 4, 2014. Subject: Correction of cat control numbers. Medina, Suzanne. 2013. Wildlife Biologist, Guam Division of Aquatic and Wildlife Resources, Mangilao, Guam. E-mail to Leilani Takano, U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office, dated August 13, 2013. Subject: Review draft Guam rail paragraph.

Weninger, Paul. 2008. Guam Division of Aquatic and Wildlife Resources, Mangilao, Guam (as cited in USFWS 2009).

U.S. FISH AND WILDLIFE SERVICE
SIGNATURE PAGE for 5-YEAR REVIEW on
Guam Rail or Ko'ko'
(*Gallirallus owstoni*)

Pre-1992 DPS listing still considered a listable entity? N/A

Recommendation resulting from the 5-year review:

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- Delisting
 - Reclassify from Endangered to Threatened status
 - Reclassify from Threatened to Endangered status
 - No Change in listing status

for **Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Maise M. Buegman

Date 2014-08-20