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## **GUAM MICRONESIAN KINGFISHER 98 Fact Sheet (9/1/98)**

### **Micronesian Kingfisher** (*Halcyon cinnamomina*)

**Description:** The Micronesian kingfisher is a medium-sized kingfisher with a large, strong beak. The larger Guam subspecies is sexually dimorphic in color with males blue above and rusty cinnamon below and females similar but with white underparts.

**Range:** While other subspecies of the Micronesian kingfisher are found on several islands of the Mariana chain, this subspecies was found only on the island of Guam, and it is probably extinct there today.

**Habitat:** Historically, the kingfisher occurred island-wide in all habitats, except pure savannah and wetlands, favoring woodlands and limestone forest areas for feeding and nesting. The population was observed to begin its decline in southern forest habitats during the 1970s, with only a remnant population remaining in the northwestern limestone forest as of 1985.

**Diet:** Unlike many kingfishers, this subspecies does not rely on fish for its diet. Instead it feeds primarily on grasshoppers, skinks (small lizards), insects and small crustaceans which it captures on the ground.

**Social Organization:** An aggressive bird, Micronesian kingfishers appear to establish and defend nesting territories. Both sexes participate in nest excavation, which may play an important role in their pair bonding. The breeding season is concentrated between December and July, with bi-parental care of the nest and chicks. Nests contain 1 to 3 eggs with an average of 2 chicks per clutch. Undetermined in the wild, the incubation for captive birds is 21-23 days. Chicks are fed by regurgitation in early stages with small food items offered thereafter. Fledging is estimated to occur at 33 days.

**Conservation Status:** Although listed by the Guam Endangered Species Act in 1982 and added to the U.S. Endangered Species List in 1984, the Micronesian kingfisher now appears extinct on Guam.

**Threats to Survival:** Many of Guam's native birds have been severely reduced or even driven to extinction by the brown tree snake (*Boiga irregularis*). Introduced to the island, possibly from New Guinea or the

Soloman Islands, soon after World War II, this rear-fanged constrictor has reached a population density of 12,000 snakes per square mile on some parts of Guam. Guam's birds, which did not evolve on the island with the 8-13 foot snake, are prime targets for this arboreal predator. As a result, the Micronesian kingfisher population plunged from an estimated 3,000 in the early 1980's to approximately 7 specimens in 1986.

**Zoo Programs - SSP:** A cooperative rescue effort between the Guam Department of Aquatic and Wildlife Resources and several AZA institutions led to the capture of 29 kingfishers between 1984 and 1986. The establishment of a captive breeding program has increased the AZA's SSP population to a high of 65 birds in 1991. Fluctuations in reproduction and premature mortality in young adult birds have severely limited population growth keeping the population to 50 birds. Problems associated with reproduction in this species include specificity of nest log requirements and the tendency for chicks to disappear in the nest. The goals of the program are to preserve genetic diversity and increase the population size as quickly as possible. For the short term, a carrying capacity of 100-200 birds in 25 institutions has been established. Research concerns include nutrition and behavioral ecology.

**Conservation:** Along with the need for increased captive propagation of this species, the most important conservation concern for is the development of a method to eradicate or control the brown tree snakes on the island and prevent its transfer to other islands.

**Education:** Conservation education programs regarding native wildlife and risks associated with introduced species are underway. In Micronesia, programs have been established to increase awareness of the potential for transfer of the snake to nearby islands and associated hazards.

**Reintroduction:** Once the captive population is stabilized, surplus birds may be used for reintroduction projects on Guam, if the snakes can be controlled, or on another suitable Pacific island. Slow growth of the captive population makes both prospects unlikely for the immediate future.

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