

# **Protection and Recovery Program for the Okinawa Rail**

## ***(Gallirallus okinawae)***

November 19, 2004

Ministry of Education, Culture, Sports, Science and Technology

Ministry of Agriculture, Forestry and Fisheries

Ministry of Land, Infrastructure, Transport and Tourism

Ministry of the Environment

### **I. Objectives of the Program**

The Okinawa rail (*Gallirallus okinawae*) is a bird in the family Rallidae, first described as a new species in 1981. It is found only in the northern part of Okinawa Island. Current threats to its survival include predation by feral cats; rapid shrinking of the species range, likely due to the mongoose invasion; shrinking habitat due to land development; death or injury caused by motor vehicles; and adverse effects associated with improvident human interactions with the species, whether for observations or photographing of individuals.

The objectives of this program is to ensure the stable survival of the bird in a natural state by clarifying the status of the species; maintaining and improving the environments necessary for the species; mitigating and removing factors that pose threats to the species; establishing artificial breeding techniques to safeguard against rapid declines in wild population; and exploring methods for reintroducing captive-bred animals.

### **II. Program areas**

Okinawa Island in Okinawa Prefecture and captive breeding areas described in Item 3 of Section III below.

### **III. Overview of the Program**

#### **1. Understanding the status of the species**

The following surveys will be undertaken to appropriately and effectively implement the program and to gather information on the species and its current situation.

##### **(1) Surveying and monitoring the status of the species**

The program will conduct surveys and undertake regular monitoring to gather information on the status of the population, including distributional range and habitat density.

In addition, the program will gather information from local residents on Okinawa rail and on alien and other species that prey on the rail, including reports of sightings, with animals categorized as dead or alive. It will gather information on the status of the species, actual incidents involving death or injury of this species, particularly due to contact with motor vehicles, and the invasion status of alien species.

### **(2) Ascertaining ecology**

Much about this species remains unknown, including its basic ecology. The program will implement surveys to gather basic facts essential for this program, including feeding habits; foraging behavior; migration of the individuals; population dispersal; behavior during breeding and non-breeding seasons; and home range.

The program will also analyze DNA from samples acquired from individual animals found in the past and present ranges to better understand current diversity levels and changes in genetic diversity.

### **(3) Understanding suitable environments**

Based on the results of the surveys described in (1) and (2) above, the program will gather information on suitable environments for this species, with the object of maintaining wild population. It will also investigate the relationship between this species and the surrounding ecosystem.

## **2. Habitat maintenance and improvement**

The stable survival of this species in its natural state will require efforts to maintain the health of the entire ecosystem, including the trees it uses as roosts and animals that make up its diet.

Based on the knowledge acquired in Item 1 above, the program will take the following actions to explore effective countermeasures against the degradation of the habitats and population declines, thereby maintaining and improving environments suitable for the habitat and breeding.

When land use or development on species habitat arises, the program will seek to ensure the environmental conditions needed for the survival of the species.

### **(1) Preventing the impacts of alien and other species**

The program will monitor the invasion status and impacts of feral cats, mongoose, and other alien species that pose major threat to the species, whether through predation or competition for food resources. This includes the jungle crow (*Corvus macrorhynchos*), whose effects on the species are also of concern. These alien and other species will be eliminated from native habitats and adjacent areas.

The program will also entail other measures, including appropriately managing domestic animals to prevent the introduction or dispersion of feral cats and other species into species habitat.

## **(2) Patrol, etc. of the habitat**

To prevent human interactions that may adversely affect the population and their breeding, including indiscreet entry into the habitats, the program will establish a patrolling system and install notices in the species habitats.

## **(3) Countermeasures to prevent accidents**

To prevent death or injury of individual animals due to motor vehicles and fatal accidents involving young falling into roadside ditches, the program will gather information, including reports of sightings on and around roadways. In areas where these accidents are likely to occur, the program will take measures in cooperation with relevant organizations, including improving road structures (for example, installing side ditches that do not endanger small animals); weeding to improve visibility; and installing signs urging motorists to proceed with caution.

The months of the year in which breeding and brooding occur require special attention, since such accidents are especially common during this period.

## **3. Captive breeding and reintroducing individuals**

Studies show the distribution of this species has declined, likely due to alien species. Based on the likelihood that the population is in rapid decline, the program will prepare the systems and facilities needed to captive-breed individual animals and implement captive breeding in order to establish effective captive breeding techniques, gather information on ecology of animals observed in captivity, and maintain stable population.

In addition, the program will explore the reintroduction into the wild of individual animals following captive breeding efforts if necessary. In captive-breeding and reintroduction efforts, the program will monitor various factors capable of affecting the survival of captive-bred and wild populations, including potential changes in behavior attributable to captive breeding and the potential infections of contagious pathogens among captive-bred animals as well as infections from captive-bred populations to wild populations. With these considerations, it will establish appropriate captive breeding and reintroduction methods.

## **4. Promotion of education and awareness-raising activities**

To achieve effective progress with the program, understanding and cooperation is crucial on the part of the parties carrying out various business activities, the national government, relevant local governments, and citizens including local residents and tourists. The program will promote public awareness on the species status, the need for protection, the necessity of eliminating and preventing alien species, and the progress of

the protection and recovery program. The program will provide education programs at schools to foster better understanding and cooperation in protecting the species.

With the cooperation of experts in ecology of this species, and local parties participating in activities to protect this species, the program will facilitate the development of voluntary conservation activities of the community through efforts such as fostering a deeper understanding of the species in the program area.

#### **5. Consolidation of collaboration for effective promotion of the program**

When implementing the program, efforts will seek to facilitate cooperation and collaboration among the national government, relevant local governments in ecology of this species, parties participating in activities to protect this species, and local residents.