

# HISTORY OF YAMBARU KUINA

(Before scientific name was given) Locals called the bird “Agachah” or “Yama Doui.”

- 1981 Okinawa Rail was identified.(reported as a newly found species by Yamashina Institute for Ornithology)  
Registered as Okinawa Prefecture Natural Monument.(Okinawa Prefecture)
- 1982 Registered as National Natural Monument.(Agency for Cultural Affairs, Government of Japan)
- 1993 Population decline in the southern habitat was reported by Yamashina Institute for Ornithology.  
Registered as Nationally Endangered Species according to the *Act on Conservation of Endangered Species of Wild Fauna and Flora*. (Ministry of the Environment, Government of Japan)
- 1998 Four chicks successfully hatched from eggs as artificial incubation.(Neo Park Okinawa)
- 1999 Yambaru Wildlife Conservation Center was opened.(Ministry of the Environment)
- 2000 Okinawa prefecture started Mongoose (*Herpestes auropunctatus*) Capturing Project.
- 2001 Ministry of the Environment, Government of Japan started Mongoose Capturing Project.
- 2002 Ada-ku (ward), Kunigami enforced a rule about keeping cats in the local area.  
Veterinarian Organization to protect Okinawa Rails was established.  
A campaign to prevent abandoning animals in the wild was initiated.(Veterinarian Organization to protect Okinawa Rails)
- 2004 Liaisons for Prevention of Running Over Okinawa Rails in Yambaru area were established.  
Protection and Propagation of Okinawa Rail Program was formed. (Ministry of the Environment, Ministry of Land, Infrastructure, Transport and Tourism, Ministry of Agriculture, Forestry and Fisheries, and Ministry of Education, Culture, Sports, Science and Technology)
- 2005 Local regulations on Caring and Managing Cats were enforced. (Kunigami, Ogimi, and Higashi Villages)  
Emergency Critical Care Center for Okinawa Rails was established. (Conservation and Animal Welfare Trust, Okinawa)  
Fences to stop Mongoose to move northward were set. (Okinawa Prefecture)
- 2006 Work Group for the Okinawa Rail Conservation and Growth-Promoting Project was founded.  
(Ministry of the Environment)  
Shelter to protect Okinawa Rails and an observation booth were established. (Kunigami Village)  
International Workshop on Okinawa Rail population variability analysis was held.
- 2007 The first report on captive breeding of Okinawa Rails. (Conservation and Animal Welfare Trust, Okinawa)  
Fundamental Policy regarding captive breeding of Okinawa Rails was established. (Ministry of the Environment)
- 2008 Captive breeding of Okinawa Rails Project was started. (Ministry of the Environment)
- 2010 The facility for the Captive Breeding of Okinawa Rails Project was completed. (Ministry of the Environment)
- 2016 10-year Okinawa Rail Captive Breeding Program was formulated. (Ministry of the Environment)



Mongoose started invading Yambaru area around 1990s.




Kui-chan, the Okinawa Rail mascot.

## What we can do

 **Keep your pets responsibly.**

Loose or abandoned pets prey on wild animals.

 **Obey the speed limits.**

Slow down around wild animal caution signs.

 **No littering.**

Garbage can induce population growth of crows that threaten Okinawa Rails.

# YAMBARU KUINA

## THE BIRD THAT ROAMS THE YAMBARU FOREST



Scientific Name: *Gallirallus okinawae*

Common Name: Okinawa Rail

Total length: approx. 35 cm, weight: approx. 450 g

Nationally Endangered Species of Wild Fauna and Flora  
(Act on Conservation of Endangered Species of Wild Fauna and Flora)

Nationally Designated Natural Monument (Cultural Assets Preservation Act)

Endangered Species (The Red Lists of Threatened Species by Ministry of the Environment, Government of Japan and IUCN)

Village Bird of Kunigami Village

From head to tail is dark olive-brown and the head is black. White-colored lines extend from its eyes to its neck.

The chest is black and white striped, and its bill and legs are a vivid red.

It was identified as *Gallirallus okinawae* in 1981, but the locals called it “Agachah” or “Yama Doui” before official classification.

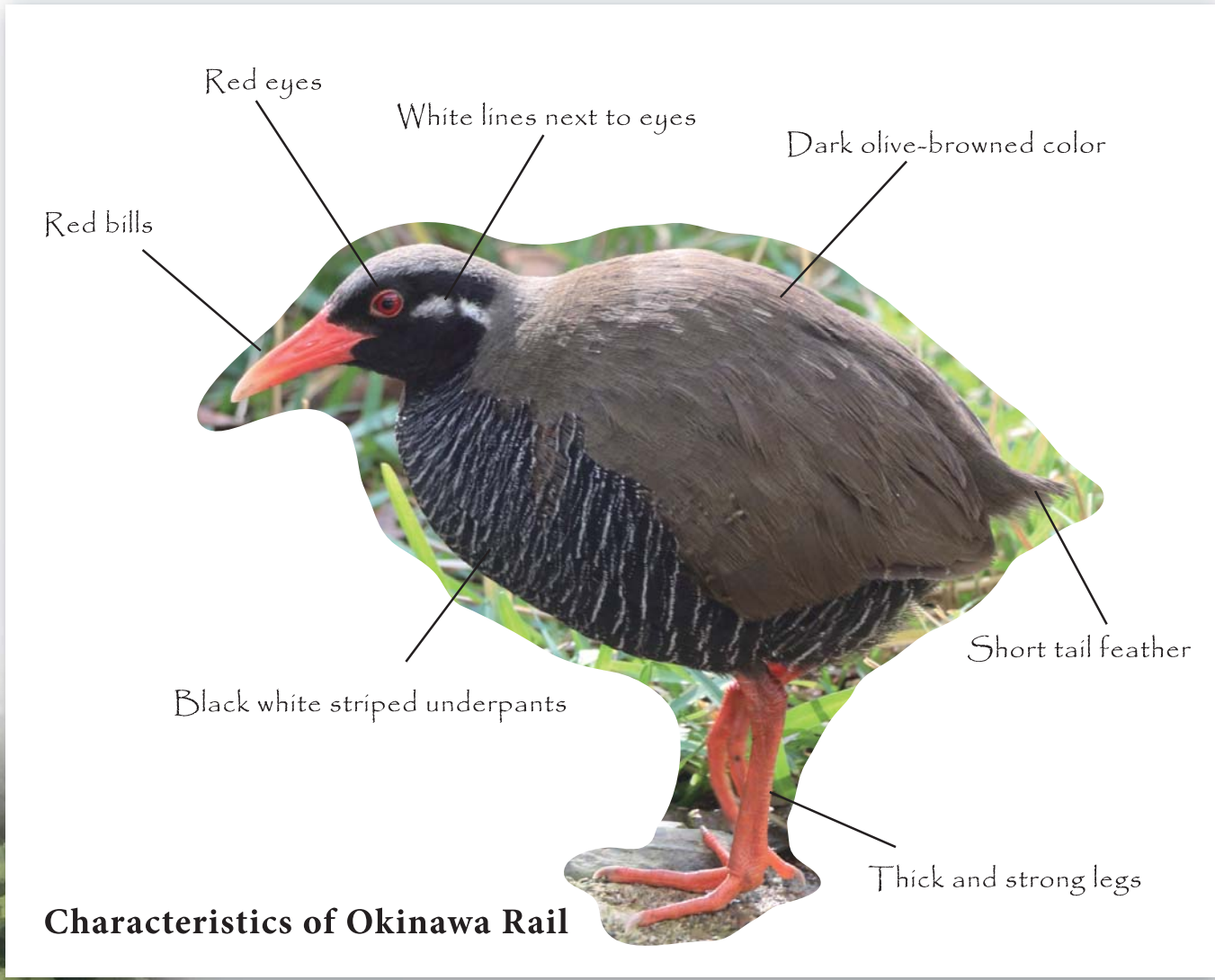
Okinawa Rails are the only birds in Japan that cannot fly.



Photo by: Michio Kinjo



Okinawa Rail is a species in the rail family only found in the Yambaru area, which is the northern part of Okinawa Island, and it is the only bird in Japan that cannot fly. In 1981, Okinawa Rail was announced as a new species, *Gallirallus okinawae*, and was known worldwide.



## Day of Okinawa Rail

During daytime, activities of the Okinawa Rail include looking for food or bathing in water. During nighttime, it climbs up trees to avoid habu snakes while sleeping. Okinawa Rail is an omnivorous animal. It feeds on food such as insects, earthworms, and nuts from trees. It uses rocks to crush snails so it can eat them.



Okinawa Rail sleeping with one leg in a tree.



Okinawa Rail crushing a snail with a rock.

## Voice

Okinawa Rails can be loud and they make different voices depending on the situation. A call of one individual triggers others to speak out.

- Kek-Kek-Kek-Kek-Kek.....**  
Claiming its own territory, communicating with own party or mate.
- Ku ririri yeah.....**  
Courtship display, communicating with its mate
- Gugu...gugu...**  
Calling juveniles, giving warning signs.
- Kwee, kweee.....**  
Giving warning



## Raising juvenile chicks

From the end of March to June, productive female Okinawa Rails lay three to five eggs. The chicks hatch after about three weeks, and the parents take care of the chicks. Chicks grow in two months to be the same appearance as parents, and then leave.

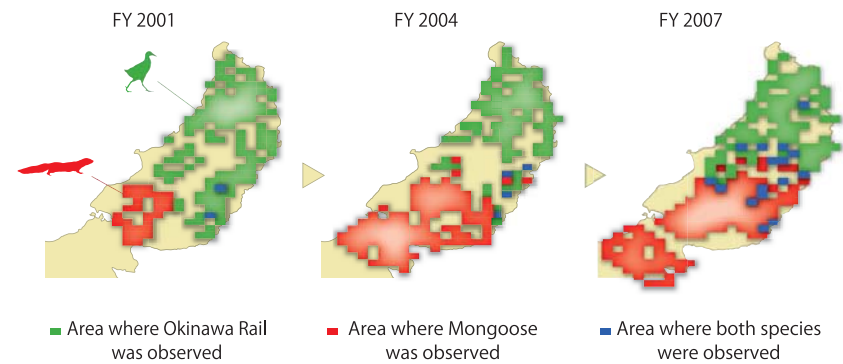




Around the time when Okinawa Rail was reported as a new species, the population was estimated to be approximately 1800 individuals (in 1985). In 2005, it dropped below 1000 shrinking its habitat from three villages in the northern part of Okinawa Island (Kunigami, Ogimi, and Higashi Villages) to only one village, Kunigami Village.

## Non-native animals in the Yambaru area

One of the biggest reasons for Okinawa Rail population decline is carnivorous mammals introduced by humans. Mongoose (*Herpestes auropunctatus*) was introduced to control native venomous snakes (Habu). Along with mongooses, abandoned cats and dogs that become wildlife pose a threat. These animals prey on Okinawa Rails resulting in extinction threat. As you can see the graph below, the Okinawa Rail habitat is decreasing as the mongoose's distribution area enlarges.



Small Indian Mongoose



Stray cat and dog wandering the Yambaru area

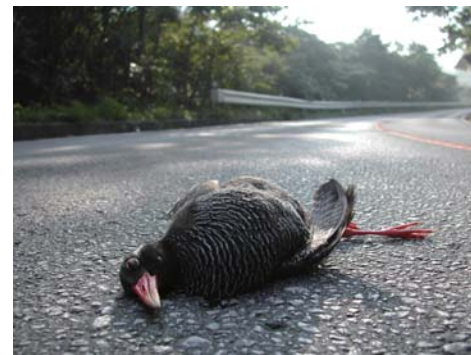
## Road Kill

A road kill is a death caused by traffic on roads or as a result of construction. Traffic accidents and falling down in the ditches can cause animal death.

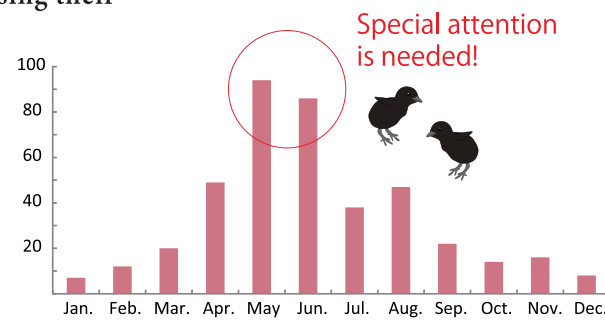
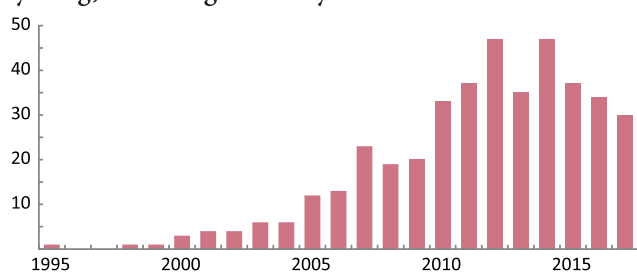
The number of traffic accidents involving Okinawa Rails is increasing. 47 incidents, which was the worst record, were marked in 2012 and 2014.

Increased traffic accidents involving Okinawa Rails are reported from April to June when pairs are raising chicks. Parents are more likely to be on roads while seeking food for their chicks.

Both Okinawa Rail parents take an active role in raising their young, so losing one may cause chicks' deaths.



Okinawa Rail involved in a traffic accident



The population of Okinawa Rail dropped before, but these days, it is recovering. Here, some programs that have been started to protect Okinawa Rail are introduced.

## Mongoose Eradication Project

Fences were set up to block northward movement of mongoose from the southern area of Okinawa Island. Also, trapping mongoose and detecting feces of mongoose by dogs are under way. All these activities aim to reduce the mongoose population in the area.

The project was started in 2000 and the Okinawa Rail population is recovering while the number of mongoose is decreasing drastically.

Mongoose busters checking a mongoose trap ▶



## Counteracting Predators

In Kunigami, Ogimi, and Higashi villages, alley dogs and cats are captured and sheltered. "Caring and Managing Cats Ordinance" are enforced in the area.

The followings are mentioned in the ordinances. Domesticated cats need to be registered, microchipped, and fixed/neutered. Cats cannot be loose running, and people cannot feed random cats.

A cat getting microchipped ▶



## Monitoring Population

Playing voice of an Okinawa Rail gets feedback from other Okinawa Rails in the area. This method, call playback method, allows us to assess the population status of the bird in the area.

The population status of Okinawa Rails is monitored by using call playback method at about 250 points in the Yambaru area every year. Students from local elementary schools get involved in the call playback survey in each community.

Students getting involved in Surveys ▶



## Counteracting Road Kill

To avoid road kill incidents, areas where many incidents are reported receive special designation. In these areas, signs are set up to warn drivers.

Fences are set to block Okinawa Rails from roads. Also, animal-friendly roads are constructed by building tunnels for wild animals under roads.

Designated areas with warning signs ▶





Although the population is recovering, Okinawa Rails are still at the risk of extinction.

To avoid extinction, a facility for the captive breeding of Okinawa Rails was founded in Ada, Kunigami village, in 2010.

In the facility, the team is devoted to pairing and breeding birds, and developing techniques for rearing juveniles.

※The facility is not open for public to avoid infectious diseases and influence on sensitive Okinawa Rails.



## Getting ready for possible extinction in the wild

A study is in progress at the facility for the captive breeding of Okinawa Rails since the bird is still at risk of extinction. The study includes establishing a technique to prepare chicks for life in the wild. In case of extinction of Okinawa Rails in the wild, approximately 70 individuals are simultaneously kept in the facility.

In 2011, the number of Okinawa Rails at the facility was 44. In 2015, a pair kept at the facility laid eggs and welcomed their chicks.

## Schemes of Captive Breeding

① Some captured or rescued wild Okinawa Rails are chosen as “founders.”

“Founders” are individuals with potential to have offspring at the facility.

② Pairing male and female after performing characteristic observation and genetic studies

If the birds are not compatible as a pair, serious injuries can happen. Pairing has to be done with careful observation.

③ Raising chicks obtained from the pairs

Number of eggs, days to hatch from eggs, and activities of parents and chicks are studied to develop a responsible captive breeding technique.

④ Repeating ②~③, the number of Okinawa Rails will be maintained with genetic diversity equivalent to that of wild population.

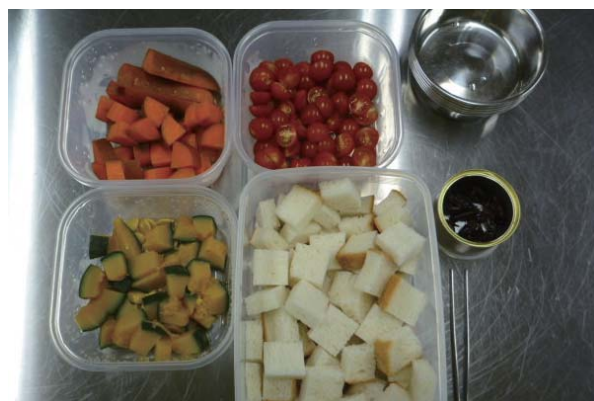
At the facility, genetic diversity is a primary focus when pairing happens. Some tests are run to put captive individuals to the wild.



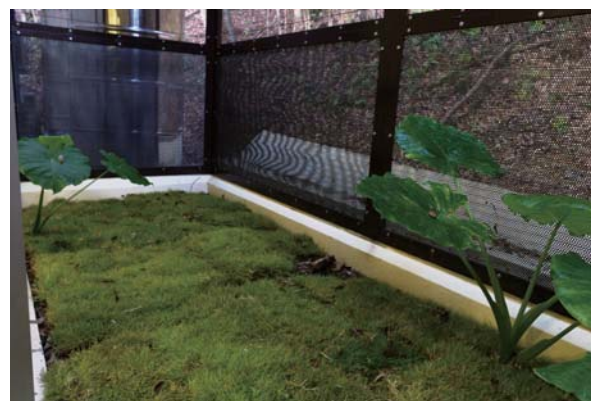
Rearing and breeding room



Bathing in water



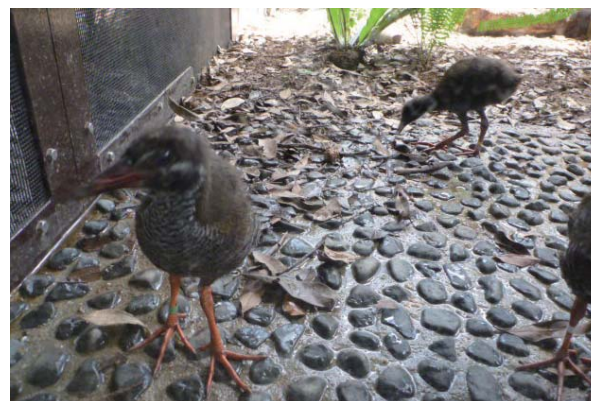
Food for Okinawa Rails



Brooding Room



Sunbathing



Chicks

