

HORNBILL REINTRODUCTION



Hornbill Reintroduction
Forest Restoration
Mangrove Restoration
Myanmar Stoves Campaign

EDITION 7

Coral Restoration
Action Against Hunger
Soneva Namoon



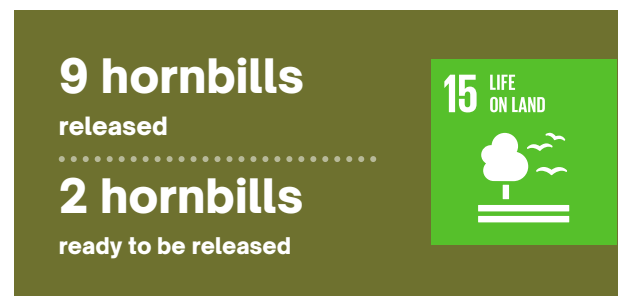
The Soneva Foundation and the Hornbill Research Foundation are reintroducing hornbills to Koh Kood in Thailand, which went extinct on the island around 40 years ago.

The Hornbill is a very important species for the island as it helps spread the seeds of bigger trees, improving the biodiversity of forests.

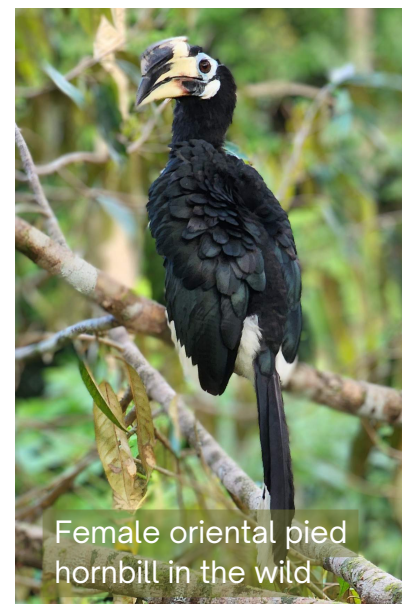
Coming from Thailand's Zoological Parks Organization, the hornbills have been released on Koh Kood with permission from the Department of National Parks and collaboration with local authorities.

Nine oriental pied hornbills have so far been released since May 2022. Two hornbills are also in our enclosure so they can adapt to the environment before being released.

While all the oriental pied hornbills released are staying fairly near familiar territory, they are gradually discovering their natural instincts and starting to venture further away.



“The hope is that in the 2024 mating season from January to June there will be Koh Kood-born chicks.”



About Hornbills



Oriental pied hornbill couple

Hornbills (*Bucerotidae*) are a family of bird found in tropical and subtropical Africa, Asia and Melanesia. They are characterised by a long, down-curved bill which is frequently brightly coloured and sometimes has a casque on the upper mandible.

Hornbills include about 55 living species, 13 of which exist in Thailand. Most hornbill species are found in dense forests. Many Asian hornbills are threatened by hunting and habitat loss from deforestation, as they tend to require primary forest. Hornbills are also threatened by the poaching of chicks for food and for the illegal wildlife trade. Animal traders are willing to pay large sums of money for hornbill chicks, and poaching remains a significant threat in southern Thailand.

Fruit eaters

Hornbills are omnivorous, eating fruit, insects

and small animals. They cannot swallow food caught at the tip of the beak as their tongues are too short to manipulate it, so they toss it back to the throat with a jerk of the head.

Loyal couples

Hornbills are monogamous breeders, nesting in the cavities of living trees such as *Dipterocarpus* sp. and *Syzygium* sp. Hornbills can live for up to 40 years and have chicks usually between the ages of 10 to 20.

In Thailand, hornbills begin searching for nesting sites at the end of the monsoon season, in December or January. The male will locate a possible nest cavity and invite the female to inspect. Once she is satisfied with the site choice, mating occurs nearby. The female usually lays one to three eggs in existing holes or cavities in trees often created by woodpeckers.

Nesting sites may be used in consecutive breeding seasons by the same pair. Before incubation, the females – sometimes assisted by the male – begin to close the entrance to the nest cavity with a wall made of mud, droppings and fruit pulp. When the female is ready to lay her eggs, the entrance is just large enough for her to enter the nest, and afterwards the remaining opening is also all but sealed shut. There is only one narrow aperture, big enough for the male to transfer food to the mother and eventually the chicks.

The function of this interesting behaviour is apparently related to protecting the nesting site from rival hornbills in the area. The sealing can be done in just a few hours and, at most, it only takes a few days. Having sealed the nest, it takes a further five days for the first egg to be laid.

When both the chicks and the female are too big to fit in the nest, the mother breaks out of the nest and then both parents take turns to feed the chicks.

Importance of Hornbills

Hornbills are the farmers of the forest. They are large, fruit-eating birds which live in sub-tropical forests, eating the seeds of bigger trees compared to smaller birds. This is important for improving the biodiversity of the forest and complementing the work of smaller birds. Because of the hornbill's ability to commute over long distances, they are of

vital importance for the dispersal of seeds and therefore for plant reproduction.

However, large forested areas are needed to sustain hornbill populations. Because of intense habitat destruction, the numbers of many hornbill species in Southeast Asia have been dramatically declining.



Hornbills are important for the biodiversity of forests.

Hornbills in Thailand

There are 13 hornbill species living in Thailand. The two main areas for hornbills are Huai Kha Khaeng Wildlife Sanctuary, situated in western Thailand, and Khao Yai National Park in central Thailand.

The Hornbill Research Foundation has some of Thailand's leading experts studying hornbills,

including Dr Pilai Poonswad and Dr Vijak Chimchome. It is estimated that there are around 10,000 hornbills in these two areas alone, with oriental pied hornbills and great oied hornbills as the most common. There is also a good number of hornbills in the deep south of Thailand but the area needs to be studied further.

Hornbill species in Thailand

Oriental Pied Hornbill



Rhinoceros Hornbill
 Helmeted Hornbill
 Rufous-necked Hornbill
 Wrinkled Hornbill
 Plain-pouched Hornbill



Great Hornbill
 Wreathed Hornbill
 (Tickell's) Brown Hornbill
 (Austen's) Brown Hornbill
 Bushy-crested Hornbill
 White-crowned Hornbill



Black Hornbill



Oriental pied hornbill pair adapt to the new surroundings in the enclosure before their release.

Hornbill reintroduction on Koh Kood

The Koh Kood island used to have hornbills on the island, but the species disappeared around 40 years ago. Although no studies have been conducted, most likely there were both oriental pied hornbills and great pied hornbills on the island.

“Around 40-50 years ago, Koh Kood saw many hornbills nesting on the island,” says Dr. Vijak Chimchome one of Thailand’s leading experts on the species.

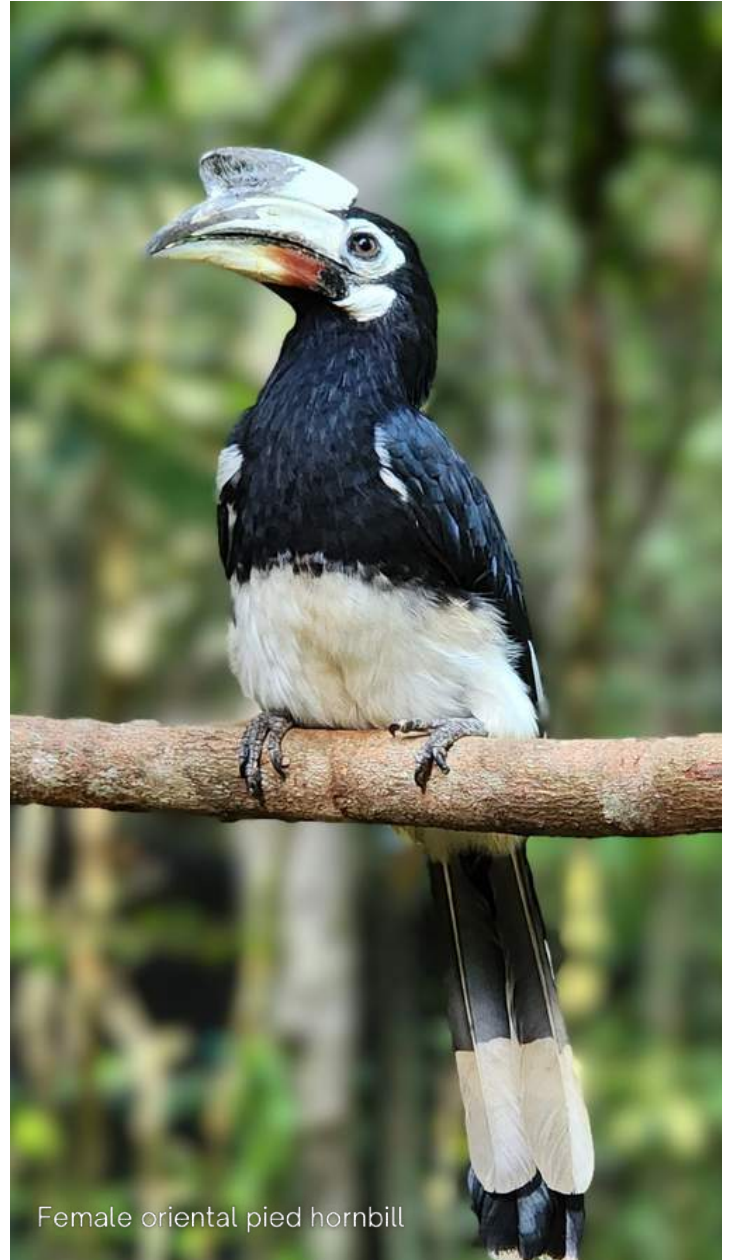
Dr. Vijak is Secretary of the Hornbill Research Foundation and former professor at Kasetsart University, Faculty of Forestry. He explains the most likely reason for their disappearance:

“Koh Kood is not a conservation area; therefore, it has never been protected against hunting. Meanwhile, the forest is slowly reducing in size and is used more for agriculture and tourism. This has seen the hornbills become extinct on Koh Kood.”

Monitor and release

You can find oriental pied, great pied and the wreathed hornbill on neighbouring island Koh Chang. Dr. Vijak and his team at Hornbill Research Foundation would like to Koh Kood, Thailand’s fourth largest island, to once again have hornbills as part of their biodiversity.

“We were aware of the Soneva Foundation and its efforts to care for the local environment. I believed that it would be a great opportunity to work with the Soneva Foundation and the local community on Koh Kood. By creating this conservation project, it



Female oriental pied hornbill

will demonstrate a collaboration between an international organisation, a Thai organisation, the government, and the local community,” says Dr. Vijak.

Initial discussions started in 2018. However, it took all the way until December 2021 before the first oriental pied hornbill pair came to Koh Kood from Kha Kheow Zoo. They stayed six months in a specially-built enclosure in preparation for

release. Here they will be gradually introduced to eating native fruits. Once released, they tend to come back to the enclosure to get food for about a month's time before adapting to foraging on their own.

"The first pair we brought in was a success," says Dr. Vijak.

Artificial nests

The artificial nests built by Soneva Kiri carpenters have been strategically placed 15-20 metres up in trees nearby the enclosure. The idea is for the pair to settle in one of the nests and make it their home. The artificial nests are needed as there is a lack of natural cavities in the trees for hornbills to nest. Koh Kood does not have any woodpeckers or bears that normally would create these cavities.

Nine birds have been released, usually in pairs for greater chance of survival.



"When I was young, my father told me about hornbills. These birds are a symbol of love as they live together as a couple. If one of them die one would worry about the bird that lives on," says Wannapa Katintats.

Wannapa runs Hong Nam Keaw Homestay and has an organic farm. She helps with the project as the enclosure is located on the land her family occupies. She is also host for the project's Research Assistants such as Nuttanun Leenoi.

"This is my first time working with hornbills and I feel lucky. It is a wonderful experience.

I have learnt that they are smart and their hearts are as pure as human babies. It would be very nice if hornbills and other wildlife are given as much freedom as they should have in their natural habitat," says Nuttanun Leenoi.



A healthy population

The oriental pied hornbills are provided by the Zoological Parks Organization (ZPO), which has a network of zoos in Thailand. They breed hornbills for the purpose of releasing them into the wild.

“ZPO is joining this project because we have the knowledge and expertise in wildlife conservation. We will slowly continue to release more hornbills until we establish a healthy population for Koh Kood,” says Urarikha Kongprom, Assistant Director of Zoological Park Organization.

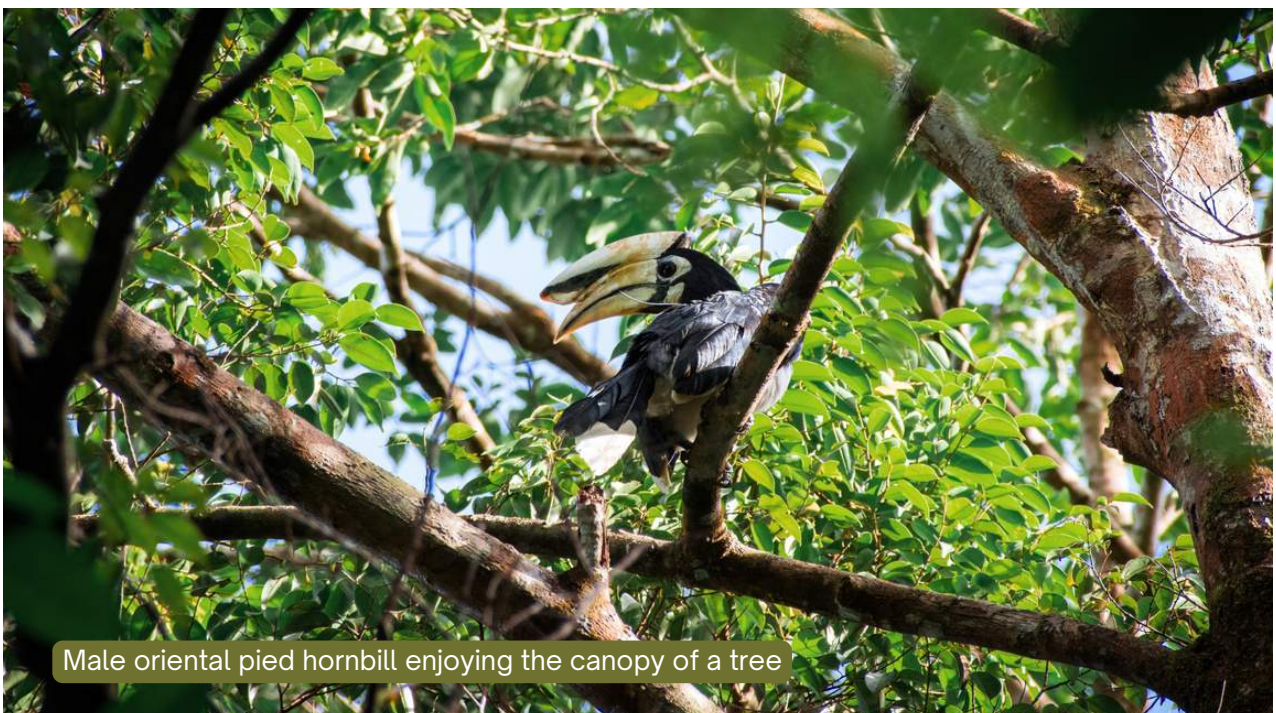
There have been a couple of setbacks for the hornbill team. One male hornbill got tangled in some vines and died. Another male died during release, presumably from stress. It is never easy to get captured hornbills adapted to the wild, but the team is diligently working on making the transition seamless for the birds. Their main threat is from humans, who hunted them to extinction 40 years ago.

“The local people really see the significance and importance of taking care



Male oriental
pied hornbill

of these birds. At the end of the day if we release these animals into the wild and they still get hunted down the birds will disappear again. The main role of the Hornbill Research Foundation is to educate the locals. We encourage them to take care of the birds and they can also report if they see someone hunting so we can protect these lovely creatures,” adds Dr. Vijak.



Male oriental pied hornbill enjoying the canopy of a tree



Press play to watch our video



Deforestation is responsible for around 11 percent of global carbon emissions. Restoring forests is an important solution to reversing climate change and improving biodiversity.

The Soneva Foundation started forest restoration in Thailand in 2011 and has since expanded to Mozambique, Nepal and the Philippines. These projects will restore

4,000 hectares of natural forest by planting 5.2 million trees from a variety of native species by 2025.

The Soneva Foundation's philosophy on forest restoration is to use a wide variety of indigenous tree species, which are planted by the local community.

To date, the Soneva Foundation has planted over 2 million trees.



Jossefa Pedro Faustino prepares a seedling that will be planted in the forest

<h2>Positive impact</h2> <p>5.2 million trees to be planted by 2025</p> <p>4,000 hectares to be restored</p> <p>3.3 million tonnes CO2 to be mitigated</p>	<p>1 NO POVERTY</p> <p>13 CLIMATE ACTION</p> <p>15 LIFE ON LAND</p>
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MANGROVE RESTORATION

Mangrove forests are coastal guardians and play a vital role in ocean biodiversity. One of its biggest strengths lies in the forest's ability to capture and store carbon.

The Soneva Foundation engaged Worldview International Foundation to plant 2.5 million mangroves in Myanmar, restoring 1,000 hectares of mangrove forests. The last 1 million mangroves was planted in soil on September 2023.

The mangrove restoration project is being registered under VERRA and is expected to generate 1.5 million carbon credits.



Mangrove planting in Kyun Chaik, Myanmar

Positive impact

2.5 million mangroves
to be planted

1,000 hectares
to be restored

1.5 million tonnes CO2
to be mitigated

1 NO POVERTY



13 CLIMATE ACTION



14 LIFE BELOW WATER





The Myanmar Stoves Campaign is a Soneva Foundation programme that distributes fuel efficient cook stoves to thousands of families. It is the first Gold Standard-certified carbon project in Myanmar.

Indoor cooking on inefficient stoves is a silent killer. Air pollution from domestic cooking is responsible for the premature deaths of over 4 million people a year worldwide, more than HIV/AIDS and malaria combined.

Myanmar has one of the fastest rates of deforestation in the world, with most of the wood used for domestic cooking.

Each fuel efficient stove saves 2.5 tonnes of wood per year and reduces air pollution by 80 percent – improving the health and safety of the whole community.

The Myanmar Stoves Campaign has been successfully operating for 10 years, together with our implementation partner Mercy Corps Myanmar. 53,000 stoves have been distributed so far, benefitting 250,000 people.

Positive impact

53,333

stoves distributed

250,349

people benefitted

282,216

GS VERs issued

USD 41 million

in social value generated

1 NO POVERTY



3 GOOD HEALTH AND WELL-BEING



7 AFFORDABLE AND CLEAN ENERGY



13 CLIMATE ACTION





Transporting coral colonies to outplant onto Soneva Fushi's house reef

The Coral Restoration programme aims restore precious coral reef systems and create a thriving coral hub for the Maldives.

In Q3 2023, we received 34 micro-fragmenting tanks and Dr. David Vaughan from the Plant a Million Corals Foundation will arrive at Soneva Fushi in October to install the tanks at AquaTerra centre. The technique involves breaking healthy coral colonies into tiny pieces, nurturing them in controlled micro-fragmenting tanks until they grow, and then transplanting them onto damaged reefs. This approach accelerates coral growth, enhances genetic diversity and provides a protective environment, aiding in coral restoration.

These tanks complement the existing facilities; our one-hectare coral nursery, which is one of the world's largest using Mineral Accretion Technology (MAT); and the Coral Spawning & Rearing Lab, which replicates the reef's natural environment to enable spawning.

Through these combined initiatives, the annual output of corals generated and outplanted is expected to be 150,000 coral fragments.



Micro-fragmenting tanks.

12,500

coral colonies outplanted

30,590

coral colonies rescued

150,000

coral fragments per year





Around the world, 150 million children are missing out on meals and essential health and nutrition services. Childhood malnutrition is a potentially fatal health condition.

The Soneva Foundation has, for the past three years, worked with Action Against Hunger in Bangladesh to strengthen households' capacity for climate adaptive and resilient livelihoods to tackle food insecurity and under-nutrition.



Shilpi Khatun with fresh, healthy vegetables

Positive impact

830

households to be impacted

3,910

people to benefit



We have just extended this commitment for another three years. Our implementation partner, Action Against Hunger, is teaching families new skills and offering business training, as well as increasing food production at home using new climate change-resistant farming methods. This dual action plan ensures families can access nutritious food, either from their gardens or through generated income.

So far, we have improved the lives of 350 households and aim to reach 830 to positively impact nearly 4,000 people.

SONEVA NAMOONA

Soneva Namoonna empowers zero waste communities across the Maldives. The strategy of the NGO focuses on three key components: ‘Reduce’ to phase out single-use plastic (SUP), ‘Recycle’ to introduce more sustainable waste processing mechanisms and ‘Inspire’ to nurture environmental stewardship with changemaker mindsets.

Reducing SUPs benefits our health, environment and alleviates the financial and physical pressures of waste management. One of the biggest SUP waste streams in the Maldives is SUP bottled drinking water. To provide an alternative for local communities, Soneva Namoonna operates a water bottling facility in Maalhos, selling water in reusable containers. A second bottling operation is due to start in Q4 of 2023 in Kudafari.

Other engagements focus on creating awareness and access of SUP alternatives, including menstrual product awareness workshops, an inter-island resale market, and community-wide initiatives – most recently focusing on household water filtration systems.

The NGO is actively engaged with 22 islands, each at various stages in the pursuit of sustainable waste management. With the receipt of a second grant from the USAID's Clean Cities, Blue Ocean (CCBO) programme, the team is implementing a project on four islands to scale home composting and develop waste collection guidelines.

The Fehi Madharusa (Green School) framework is an initiative co-developed in



Soneva Namoonna is expanding home composting

Positive impact

397 tonnes

recyclables collected in three years

444 tonnes

waste removed from 11 islands in three years

705,000

plastic bottles saved in three years

6 CLEAN WATER AND SANITATION



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



partnership with the Ministry of Education, which is being scaled to 44 schools this academic year. In August, the Soneva Namoonna team trained the National Institute of Education staff team on the framework.

Soneva Namoonna, in partnership with the Maldives Swimming and Life Saving Skills Training School has also trained 22 swimming and water rescue instructors across all 11 islands, who have improved the swimming capabilities of over 700 youth. In September, the team concluded a 10-day Leaders of the Ocean Camp, further training 14 swimming and water aerobics instructors, fostering a love for our marine environment and empowering the next generation of changemakers.



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