

# Saving the red ape



At Sepilok Orangutan Rehabilitation Centre in Borneo, the staff and volunteers work hard to save the Bornean orangutan from extinction. Katie Frimston, an intern who worked at the centre, describes the threats faced by orangutans and what goes on behind the scenes at a rehabilitation centre fighting to save this species

The Bornean orangutan (*Pongo pygmaeus*) was declared critically endangered 3 years ago by the International Union for the Conservation of Nature (IUCN). There are currently only around 100 000 wild Bornean orangutans, compared with almost 300 000 in 1973. This number is predicted to decline by a further 22% by 2025 (see Figure 1). There are many reasons for this population decline, with the impact of human activity being by far the most significant. The biggest problem is habitat loss, caused by commercial logging and palm oil plantations.

**Key words** ↓

- Conservation
- Habitat loss
- Rehabilitation
- Orangutan
- Malaria
- Tuberculosis

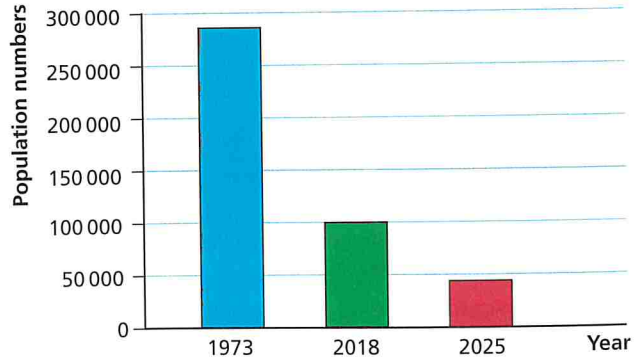


Figure 1 Bar chart showing the known and predicted decline of the Bornean orangutan population over a half-century (data from IUCN)

### Threats to orangutan survival

Palm oil plantations have largely replaced the pristine primary rainforest that once covered Borneo. The primary rainforest is usually burnt to clear the land ready for planting oil palms. The fires kill the existing wildlife. Where patches of rainforest remain, unless they are sufficiently large, or linked to each other by corridors (see pp. 22–26, this issue), they cannot support orangutans. Orangutans spend around

6 hours a day eating, and as 90% of their diet consists of fruit, they need access to large numbers of fruit trees.

Orangutans will also eat the seedlings and young shoots of palm trees, which causes human–animal conflict, as they are viewed as pests on plantations. This can result in the

orangutans being killed, despite being listed on Appendix I of the Convention on International Trade in Endangered Species (CITES), which prohibits killing, capturing and owning orangutans under international law.

Illegal hunting for meat and the illegal pet trade are additional causes of mortality, as mothers are often killed when their babies are taken to sell as pets. Each animal can fetch several hundred dollars in city markets on nearby islands and it is estimated that 200–500 are sold each year. Other threats include malaria and forest fires, one of which in the 1970s was reported to have killed 3400 orangutans.

### What is being done?

The IUCN has recommended that the expansion of plantations should be restricted and that local laws should be enforced more effectively to prevent hunting and the pet trade. Unfortunately, an orangutan pet is still perceived as a status symbol among some officials, and corruption is rife.

The Roundtable for Sustainable Palm Oil (RSPO) is a non-governmental group that includes palm growers, oil processors, traders, consumer goods manufacturers, retailers and investors. It was established in 2004 with the objective of 'promoting the growth and use of sustainable oil palm products through credible global standards and engagement of stakeholders'.

To gain RSPO certification for a plantation, owners are supposed to adhere to strict operating principles covering



A vast oil palm plantation in Borneo cuts through the rainforest

39 criteria. However, a recent research paper concluded that 'No significant difference was found between certified and non-certified plantations for any of the sustainability metrics...' and that 'RSPO principles and criteria are in need of substantial improvement and rigorous enforcement' (see *BIOLOGICAL SCIENCES REVIEW Update*, November 2018).

Another option is to keep orangutans in zoos — ex-situ conservation. However, orangutans are slow breeders and have only four or so offspring



Orangutan mother and baby



**Figure 2** Map showing the location of Sepilok

in a lifetime. This makes breeding captive individuals to supplement wild populations impractical. In addition, captivity alters orangutan behaviour, so the animals would be unlikely to survive if they were released into the wild, and mothers in captivity often show aggression to their offspring.

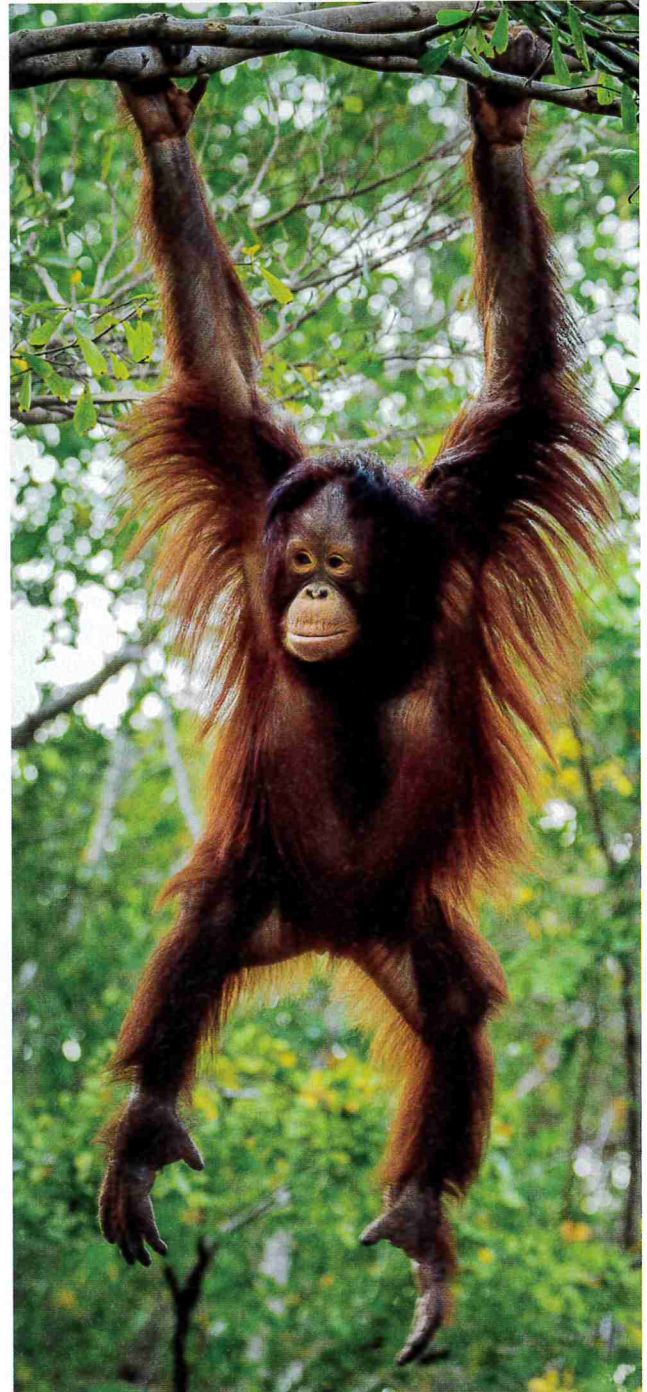
Sepilok Orangutan Rehabilitation Centre (SORC), is one of a few places that is fighting to save this magnificent species via in-situ conservation. The centre is located deep within an undamaged rainforest region of Malaysian Borneo in an area called Sepilok (see Figure 2). SORC has a visitor centre where the public can view rehabilitated orangutans living in the protected forest from a boardwalk. It also has an off-show rehabilitation centre for orphaned and wild orangutans. It has featured in many television programmes, such as *Meet the Orangutans* and *Paul O'Grady's Animal Orphans*.

The centre is the first of its kind. It was opened in 1964 by Barbara Harrisson, whose passion for the orangutan was first sparked while she was living in Borneo, when her husband brought home an orphan which she rehabilitated and released into the forest. The centre is currently home to 42 orangutans, including babies and full-grown adults, which live out in the forest reserve. Since the centre's opening, over 700 orangutans have gone through the full rehabilitation programme.

### **The rehabilitation programme at SORC**

Orphaned orangutans arrive at SORC from a variety of sources. Some have been surrendered by owners who purchased them as pets, others have had to be removed from aggressive mothers in zoos, others are rescued from the wild when their mothers are killed or their habitat is destroyed.

At SORC the orphans go through a rigorous rehabilitation programme, called forest school. The process takes 7–10 years to complete, mimicking the 8 years that babies stay with their mothers in the wild. Forest school teaches the animals survival skills: climbing, foraging, predator avoidance, nest building and communication. This type of programme involves a 'soft release', which means a gradual release of an animal with



human assistance slowly removed. The main goal of this lengthy process is to release the animals into the wild.

After the orphans have been admitted, health-checked and tested for diseases including malaria and tuberculosis (see Box 1), they undergo 90 days of quarantine before being integrated with other orphans. The next stage is Phase 1 of forest school, which lasts until the youngsters are about 5 years old. Here they are cared for by keepers who fulfil the same function as their mothers. The animals are fed regularly with fruit and vegetables and given baby milk formula as a substitute for their mother's milk. They are kept indoors at night to keep them safe, but during the day they interact with others on the jungle gym where they learn to climb.

## Box 1 Diseases suffered by orangutans

We share 97% of our DNA with orangutans, so we also share many diseases, including the common cold.

Malaria is transmitted via female mosquitoes that are carrying a *Plasmodium* parasite. When the mosquito bites a human or orangutan, the *Plasmodium* enters the bloodstream of its host, invading the red blood cells. In some cases the parasite travels to the brain, causing seizures, coma and even death. Research suggests that around 10% of the wild orangutan population are affected by malaria, but over 50% of captive and semi-captive animals are infected.

Tuberculosis (TB) is a bacterial infection caused by *Mycobacterium tuberculosis*, transmitted through water droplets released when an infected orangutan or human coughs or sneezes. When these droplets are inhaled, the bacteria enter the new host's body, where they multiply. TB can affect any part of the body, although it predominantly affects the lungs, and can be fatal if not treated. Again, research shows a higher prevalence in captive and semi-captive orangutan populations.



The author helping one of the orphans on the jungle gym. She is wearing a face mask and gloves to prevent her from passing or catching disease (see Box 1)

Next is Phase 2 where the orphans continue to be fed and watered and sleep inside at night, but during the day they are free to roam the 43 km<sup>2</sup> forest reserve. Here they learn from each other how to nest-build and forage. Nest building is a particularly important skill as it provides them with safety and shelter. In the wild, orangutans build at least two nests every day, as they are constantly changing locations to find food and avoid predators. This is partly an instinctive behaviour, but is also learned socially from mothers. This works to SORC's advantage as the older orangutans teach these skills to the youngsters. This social learning rarely occurs in the wild as orangutans live a mostly solitary lifestyle.

Phase 3 of the rehabilitation process releases the orangutans to live in the centre's protected forest. This phase only occurs once the animals can perform all the survival skills independently (usually at around 7–10 years). This is monitored through behavioural observations carried out over 2 weeks prior to release, to determine whether they

can build nests, forage and climb effectively. After living in the centre's forest for a year, centre staff decide whether an orangutan is sufficiently independent to be released on the remote Tabin Wildlife Reserve away from humans. The reserve was established by the Malaysian government in 1984 and covers approximately 122 539 hectares of forest containing several important endangered species.

All releases must be approved by the Malaysian government, after the animals have undergone health checks from the resident vet to confirm that they are disease free. Additional checks are carried out to confirm that the release area is free from the current threats to their wild counterparts, that there is enough food and shelter, and that there are other animals to mate with in order to create a self-sustaining population. Once all the checks have been passed, each orangutan is microchipped. This allows rangers to monitor what happens to the released animals.

Orangutans that are not sufficiently independent will live out the rest of their lives at the sanctuary's forest reserve. To date 56 orangutans have been released into Tabin Wildlife Reserve. It costs around £72 000 a year to run the sanctuary.

### What can you do?

After reading this, you might be interested in working in conservation, which can be very rewarding. However, these jobs are highly sought after, so experience and a conservation/animal-related degree are essential. Your first-step towards getting a job in conservation is volunteering, perhaps at a place like SORC. Even if you don't want to work in conservation, volunteering somewhere like SORC is a great CV enhancer for any future job. Your life-changing experience awaits...as well as helping to save a charismatic ape from extinction.

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### Further reading



IUCN listing for the Bornean orangutan:  
[www.iucnredlist.org/details/17975/0](http://www.iucnredlist.org/details/17975/0)

Discover how you can volunteer at SORC through Travellers Worldwide: <http://tinyurl.com/y5dbksoc>

Watch this video about the WWF's campaign for sustainable palm oil: <https://tinyurl.com/yylj56sp>

'Astro-ecology: counting orangutans using star-spotting technology', British Ecological Society, 9 April 2019:  
<https://tinyurl.com/y4yfsoav>

'A former smuggler shares the secrets of how gangs are stealing baby orangutans to sell as pets or status symbols, pushing an already endangered species closer to the brink':  
<http://tinyurl.com/yypousnc>