

## Saving the Saola: a 20th century discovery, a 21st century challenge



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Another kind of war is being waged along the Ho Chi Minh Trail these days. It has nothing to do with the conflict that made the supply line between what was then North and South Vietnam famous around the world more than four decades ago. But it's a war nonetheless, and riding on its outcome are the fates of one of the most biologically rich forests on the planet, the people who live there, and a shy, critically endangered creature found nowhere else in the world but here: the elusive saola.

Descended from mammals that roamed the planet during the last Ice Age, the saola was only discovered by science in 1992, when a survey team from Vietnam's Ministry of Forestry and WWF found a skull with long and unusually graceful horns in a hunter's home and knew immediately that it was something they had never seen before. It would later prove to be one of the most spectacular zoological finds of the 20th Century: the first large mammal genus discovered by science in more than 50 years.

Resembling an antelope (but actually a member of the cattle family) the saola was by then so rare and reclusive that it would take another four years for scientists to actually see one in the flesh – a saola captured and penned by villagers on the Vietnamese side of the densely forested Annamite Mountains that straddle the border with Laos. And it would take three more years before the first image of a saola in the wild was captured by a camera trap from Fauna & Flora International (FFI) in 1998. Although the saola proved to be elusive, anecdotal accounts by villagers held that it still survived in the remote rainforests of the rugged Annamite range. The image confirmed it and with that, the mission to find and save the saola was on.

### **Early conservation efforts**

Some of the first saola Protected Areas (PA) were established in 2007 in the Vietnamese provinces of Quang Nam and Thua Thien-Hue and have since grown into a transboundary network of PA's across the saola's core range in Vietnam, linked with Xe Sap Protected Area across the border in Laos. Informed initially by insights from villagers and local hunters, Vietnamese government experts, assisted by scientists from WWF and the Center for Biodiversity Conservation (CBC) of the American Museum of Natural History, began intensive research into the saola's distribution in order to inform its protection and monitoring methods.



*Pseudoryx nghetinhensis* - Saola 4 to 5 month old female. An endemic mammal species that made this region well known on its diversity. Photo: David Harvey / WWF

Progress was made, but significant obstacles remained. For instance, while camera traps have since captured six more pictures of saola – most recently in 2013 by another WWF camera – what we know of its habits comes mostly from the few opportunities scientists have had to observe and study saola in captivity.

The first to do so was a young zoologist from Wisconsin by the name of William Robichaud, who in 1996 spent two weeks with a saola captured by Hmong villagers in Laos. He would later observe that the mysterious creature was almost Buddha-like in its serenity. It was also beautiful, with splashes of white on its muzzle, intricate bands of color on its tail and a pair of graceful, slightly curved horns in such perfect parallel that, when viewed in profile, they seemed to merge into a single unicorn-like horn. Indeed, for this, the saola soon became known as “Asia’s unicorn.”

Robichaud is now Coordinator of the Saola Working Group (SWG) within the Asian Wild Cattle Specialist Group of the Species Commission of the International Union for the Conservation of Nature (IUCN). Robichaud, like most saola biologists, is passionately dedicated to saving the species since his first encounter with it in 1996. A few other saola have also been captured and penned by villagers since then but, like Robichaud’s saola, none survived in their primitive form of captivity for long.

The saola’s slide toward possible extinction prompted IUCN to change the animal’s “endangered” designation to “critically endangered” in 2006. But how close it actually is to the edge of that cliff can’t be known until scientists get a better handle on the actual size of the existing population. We simply do not know how many saola are still living in the evergreen rainforests of the Annamites through which the Ho Chi Minh Trail passes. What we do know is that the number is likely small, hence the urgency to protect the remaining ones.

### **Main threats and the perils of peace**

If we do not yet know how close the saola may be to extinction, we do know a great deal more about what is driving it in that direction. We know what the key threats are and we know them well enough to rank them in order of importance.

The biggest threat today is poaching to supply the local wild meat trade and the international wildlife trade. The real problem – now one of crisis proportions – has been the invasion of poachers seeking to profit from the burgeoning demand in China and other newly affluent Asian countries for rare species – both for supposed medicinal uses and for exotic main courses at expensive restaurants. The thousands of snares they set in the dense forests are a formidable challenge for the locally-recruited guards who patrol the protected areas.



By preserving forest and promoting sustainable livelihoods, the project will ultimately secure the future for some of the region's most unique and endangered species, like the Saola. David Hulse / WWF

One of two tragic ironies here is that the saola is not even one of their targets: The professional poachers are after other species and the saola is just the terrestrial equivalent of marine bycatch – to the world's fishing fleets, what dolphin are to tuna fish. But there is one significant difference: They are not tossed overboard but left hanging upside down in spring snares until they die of starvation or thirst. A well-organized gang can set a thousand snares in a day.

Forest conversion and poorly planned infrastructure development are additional threats. The Ho Chi Minh Trail is now a major highway that slices its way through 10 national parks, including a UNESCO World Heritage site. River banks cloaked in vegetation and mist-shrouded forests are the saola's preferred feeding grounds, and both are being bulldozed, flooded and severed by infrastructure projects such as dams and the conversion of forest habitat into commercial crop land. Fully half of all Laotian forests, for instance, have fallen to bulldozers making way for cash crops, hydropower and mining ventures. Thus the other cruel irony: The saola survived the intensive U.S. bombing raids on and around the Ho Chi Minh Trail during the 60's and 70's, only to be driven to the edge of extinction by the peace that followed it.

### **Saving the Saola: where are we today?**

The good news is that the battle to save the saola is far from over, thanks to stepped up efforts by the Vietnamese and Laotian governments and by the Saola Working Group, whose members include scientists and other specialists from research institutes, universities, and conservation organizations, including WWF, Global Wildlife Conservation (GWC) and the Wildlife Conservation Society (WCS).

In the central Vietnamese province of Thua Thien Hue, the forest guards WWF recruited from local villages had by the end of 2015 removed more than 75,000 snare traps and dismantled around 1,000 poaching and illegal logging camps and only a few arrests and prosecutions of suspects. The guards are good at spotting snares because many of them had been hunters themselves before WWF trained and gave them more sustainable livelihood opportunities. This work is carried out under the Carbon and Biodiversity (CarBi) Project, supported by the German development bank KfW. This project covers more than 200,000 ha of Annamite forests with a goal of increasing their carbon storage capacity, preserving their species diversity and ecosystem services, and creating new livelihood opportunities for some of the culturally diverse people who live in them. In short, it's about working closely with the respective governments to find a new formula for the sustainable co-existence of humans, plants and animals that existed before the bulldozers, buzz-saws and wildlife traffickers began arriving en masse. "The saola may be small in stature but its importance to conservation in Laos and Vietnam is huge," said Mr. Somphone Bouasavanh, Country Director, WWF-Laos. "We have an opportunity and a responsibility to ensure that the saola and its forest home survive, using cutting edge science, the world's leading conservationists and cooperation across borders."

## **Saola conservation: where do we go tomorrow?**

The CarBi forest guard program in Vietnam has been very successful, but it is in urgent need of more support to improve and expand it. The forest guards, working in tandem with the relevant Government Rangers, are the real heroes of the struggle to save the saola because they are on the front lines – risking their lives every day to confront an enemy that all too often is better equipped and coordinated than they are. We need more of these guards and they in turn need more training, better equipment and technology, and more authority to not merely dismantle traps and warn poachers, but to arrest them, confiscate their weapons and compile the court cases. Judicial systems, which too often treat wildlife poaching as they would a traffic misdemeanor, also need reform. They need to see wildlife trafficking and the greed-driven destruction it causes to ecosystems and the people who depend on them as something far more serious than running a red light.

Other important initiatives for the future include increased community engagement, education outreach and alternative livelihoods.

Thus the most urgent priorities, moving forward, are 1) funding for more and better equipped forest guards, 2) improved protected areas management and 3) judicial reform to make the punishment of wildlife crimes commensurate with the damage they cause.

The saola's plight is now so dire, however, that even this may not be enough. So, after much deliberation, the members of the SWG also have decided to establish a captive breeding program for the saola as an "insurance" population available for re-introduction should the saola become extinct in the wild. This was not an easy decision because it is expensive and the risk of not having an "insurance" population needed to be carefully weighed against the risk of hastening that outcome by removing breeding age saolas from the wild in the first place. In the end, it was decided to set up a breeding center in an area, either in Vietnam or Laos, where field-based protection against poaching was weakest, in order to accommodate the captured saola that are at highest risk of dying in poaching snares.

Unlike the primitive pens in which villagers had placed captive saolas in the past, this one would have to be state-of-the-art, with around-the-clock monitoring and the best veterinary care available. The details and safeguards are still being worked out, but discussions on setting up such a center are now underway with Vietnamese and Laotian government officials, as well as potential funders.

Why are WWF and its SWG partners going to such lengths to save a gentle and reclusive species descended from animals that appeared on the planet long before we did?

The answer is because what's at stake here is more than just one iconic species: It's what it represents. The saola is a barometer for the health of a forest ecosystem that provides life-sustaining services to all who live in it, including people: services that include the provision of clean water, food and shelter; the control of drought and flooding; and perhaps most critically, the oxygen we breathe in exchange for sequestering the carbon pollution we emit by burning fossil fuels. In the long run, a forest that proves inhospitable for the saola will not be a very pleasant place for us either. As Dr. Van Ngoc Thinh, former Central Annamite Coordinator and now Country Director for WWF Vietnam, puts it:

"The saola symbolizes everything that's at stake for us. If we can save it, we can save our forests. And if we can save our forests, we will save all of the biodiversity and ecosystem services upon which the culture, way of life and livelihoods of the people living here depend. So for us, this is not just a fight to save one endangered species. It is a fight to save what it represents."