



# ACTION INDONESIA

## GLOBAL SPECIES MANAGEMENT PLAN

FOR BANTENG, ANOA AND BABIRUSA



# ANNUAL REPORT 2017



ASSOCIATION  
OF ZOOS &  
AQUARIUMS



SEA  
ZOOS



## In a nutshell: Achievements of Action Indonesia GSMPs in 2017

Anoa, banteng and babirusa all occur within Indonesia and are under threat of extinction due to hunting and habitat loss.

The Action Indonesia Partnership was created in 2016 with the aim to promote international collaboration to ensure the long-term survival of these species by a combination of *ex situ* and *in situ* activities. This used the Global Species Management Plans (GSMPs) frameworks for banteng, anoa and babirusa.

With you as our partners, supporters and collaborators we achieved the following major successes in 2017:

- Held four capacity-building workshops in Indonesia covering husbandry, breeding and transportation techniques, techniques for handling rescued animals, and zoo educator training
- Distributed the first ever breeding and transfer recommendations for anoa, banteng and babirusa, which led to the first births of anoa and banteng in Indonesian zoos
- Supported three *in situ* conservation projects targeting anoa and babirusa populations on Sulawesi and Buru
- Completed the GSMP Masterplans and submitted them to the World Association of Zoos and Aquariums
- Raised over £90,000 to fund GSMP activities
- Participated in three major conferences in three countries and numerous partner meetings to promote the GSMPs
- Continued to provide coordination for the GSMPs

Your support has been key to these successes!

In 2018 we will be holding the second GSMP planning workshop where we will agree the work for the GSMPs for the following two years, 2018-2020.

**THANK YOU for your contributions!**

**We look forward to continuing our collaboration!**

**James Burton**

Chair of the AWCSG



**Terry Hornsey**

Convenor  
Anoa GSMP



**Joe Forys**

Convenor  
Babirusa GSMP




**Ivan Chandra**

Convenor  
Banteng GSMP



**John Abernethy &  
Johanna Rode-Margono**  
Programme Officers  
AWCSG









## 1. Introduction

### What are GSMPs?

Global Species Management Plans (GSMPs) provide a framework for regional zoo associations to work together on a global plan for the *ex situ* activities for a particular species. The GSMPs are administered by the World Association for Zoos and Aquariums (WAZA) and run by committees of representatives of the regional zoo associations participating in the collaboration.

The founding partners are the Indonesian Zoo and Aquarium Association (PKBSI), the European Association of Zoos and Aquariums (EAZA), the Association of Zoos & Aquariums (AZA), the IUCN Species Survival Commission (SSC), the IUCN SSC Asian Wild Cattle Specialist Group (AWCSG) and the IUCN SSC Wild Pig Specialist Group (WPSG), to collaborate for the conservation of the three threatened taxa banteng (*Bos javanicus*), anoa (*Bubalus* spp., two species) and babirusa (*Babyroura* spp., three species). It has been endorsed by the Indonesian Ministry of Environment and Forestry and WAZA.

### Roles of the GSMPs

The GSMPs have four main roles, as agreed during the workshops in January 2016. These are:

- ROLE 1 Facilitate the maintenance of a demographically and genetically healthy global *ex situ* population, including the provision of breeding and transfer plans, and facilitation of transfers
- ROLE 2 Support the needs and goals of the regional *ex situ* programmes by supporting collaboration, including initiation of required research, sharing of information and expertise, and capacity building
- ROLE 3 Promote an effective interface between *ex situ* and *in situ* management that supports the conservation of the three taxa
- ROLE 4 Encourage support of *in situ* conservation



## 2. Your contributions in 2017

All of the achievements in 2017 were only possible due to the generous contributions from your institutions and organisations. Contributions came in various forms: technical input and expertise sharing, staff time, travelling to meetings and other activities, and also financial contributions. As an example, several institutions supported by sending trainers to deliver the training workshops and conduct zoo and national park site visits throughout 2017.

Travelling to Indonesia is not necessarily required to support the GSMPs. Several institutions freed work time for staff to assist with various activities, such as the analysis of studbooks and preparation of breeding and transfer recommendations, or the production of communication and education materials.

Regarding financial support, Table 1 shows which GSMP activities have been funded by each of your institutions or organisations. The total amount raised in 2017 was £90,769.16 which is over £20,000 more than was raised in 2016, and is a huge credit to all those involved in fundraising and the generosity of our supporters.

The first section of Table 1 shows contributions to GSMP unrestricted funding, which was allocated to various activities, as approved by GSMP committees. Unrestricted funding is important, as various activities are essential to the functioning of the GSMPs, but may need to be funded urgently, as opposed to long-planned distinct activities. The second part of Table 1 shows contributions to specific activities (restricted funding). Details on activities that your institution supported are listed in Table 1. If no role is specified for an activity, the funded activity supported all roles of the GSMPs. Annex 1 is available on request and shows money that was spent on various activities relating to the four roles of the GSMPs. The final part of Table 1 shows the in kind contributions where organisations and staff have given their time to support the GSMPs' activities whether by acting as a trainer at a workshop, producing materials or hosting a workshop.



**Figure 1:** Releasing an adult anoa during the Anoa and Babirusa Rescue Training in Makassar

**Table 1:** Partner and supporter contributions; funding, technical and in kind support for the GSMPs in 2017

Institute/Organisation	Contribution
Unrestricted funds	
Alexandria Zoo	Used for: Supporting the <i>in situ</i> small grants projects; Hairy Babirusa ( <i>Babyrousa babyrussa</i> ) survey on the island of Buru, Maluku Islands and supporting patrols for the conservation of the babirusa and anoa and their Critical Habitat; the Nantu Forest, Sulawesi.
Audubon Zoo	
Cologne Zoo	
Leipzig Zoo	
Los Angeles Zoo	
San Antonio Zoological Society	
San Diego Zoo	
Saint Louis Zoological Park	
Restricted funds	
Antwerp Zoo	Contribution to costs for attendance for 2 Indonesian delegates at the EAZA conference
Centre for the Conservation of Tropical Ungulates	Coordination of the Action Indonesia Partnership, core funding and staff time
Chester Zoo	Coordination Action Indonesia Partnership, translation of Indonesian Action Plans to English, salaries of AWCSG PO, staff travel of AWCSG PO, staff travel and time for workshops and education materials and signs
Global Wildlife Conservation	Coordination Action Indonesia Partnership, core funding
Hogle Zoo, Utah	Translation of Indonesian Action Plan to English
Leipzig Zoo	Contribution to costs for attendance for 2 Indonesian delegates at the EAZA conference and Translation of Indonesian Action Plan to English and core funding
Opel Zoo	Contribution to costs for attendance for 2 Indonesian delegates at the EAZA
Wilhelma Zoo	Contribution to costs for attendance for 2 Indonesian delegates at the EAZA
ZSL	Contribution to costs for attendance for 2 Indonesian delegates at the EAZA
In Kind Support	
Anoa Breeding Centre, Manado	Staff time and travel
Audubon Zoo	Staff time and travel
Batu Secret Zoo	Provision of transport crate for Anoa and Babirusa Rescue Training Workshop in Sulawesi
[B]BKSDA - Provincial and local conservation authorities	Staff time and travel
Bogor Agricultural University	Staff time and travel
Citra Satwa Celebes Zoo	Hosting the Anoa and Babirusa Rescue Training Workshop
Gowa Discovery Park	Support with internal travel for Anoa and Babirusa Rescue Training in Makassar
Indonesian Institute of Sciences, Indonesia	Staff time and travel
Konservasi Keanekaragaman Hayati (KKH) of the Indonesian Ministry of Environment and Forestry	Staff time and travel
Indonesian Zoos and Aquarium Association (PKBSI)	Staff time and travel and financial support of workshops
Ragunan Zoo	Hosting the Anoa and Babirusa Husbandry and Transportation Training Workshop
Santa Barbara Zoo	Staff time and travel
Surabaya Zoo	Staff time and travel
Taman Safari Indonesia	Hosting the Banteng Husbandry and Transportation Training Workshop and Zoo Educator Workshop also staff time and travel for the workshops







### 3. Details of achievements

2017 has been a very successful year for the Action Indonesia Partnership and the GSMPs. The GSMPs' first role of improving the size and genetic health of the *ex situ* populations of anoa, banteng and babirusa has taken great strides forward this year with both the dissemination of the breeding recommendations at various meetings and presentations as well as training workshops aimed at ensuring that Indonesian zoo keepers have the skills and knowledge to successfully carry these breeding and transfer recommendations out.

The GSMPs have received significant promotion this year from a number of talks, presentations and meetings as well as through social media. By utilising multiple social media platforms including Facebook (via the AWCSG), Twitter (@IUCN\_WildCattle) and Instagram (IUCN\_WildCattle), we have been able to engage with a wider audience than before. A number of hashtags have also been used by the previously noted accounts and the participants at training workshops. The hashtags to look out for are #GSMP, #GSMPtraining, #asianwildcattle and #ZooEdu. So please stay connected and follow the work of the GSMP as it happens!

At the AZA mid-year meeting in Albuquerque, Co-convenor of the Banteng GSMP Steve Metzler (San Diego Zoo Safari Park) introduced the GSMP and delivered a training workshop on Banteng Husbandry and Transportation. James Burton, the *in situ* expert for the Anoa and Banteng GSMPs chaired a meeting at the EAZA conference at the Wildlands Adventure Park in Emmen in the Netherlands on the Action Indonesia GSMP partnership. James and Johanna Rode-Margono (South East Asia Field Programme Coordinator, Chester Zoo) also gave presentations on the GSMPs at the Cattle and Camelid TAG and the Pigs and Peccaries TAG meetings at the EAZA conference. These talks and meetings are an excellent way to promote the GSMPs and to find both new funds and new partners willing to contribute time and expertise to the collaboration.

The GSMP Masterplans which have been written by the GSMP committees were submitted to the WAZA Committee for Population Management in August 2017 and are now awaiting approval. These masterplans describe the aims and activities of the GSMPs over a five year period. The GSMP committees were approved in March 2016 and remain largely the same but with the addition of a number of new experts and advisors. The Babirusa GSMP now has both a new Convener, Joe Forys of Audubon Zoo and AZA Babirusa Studbook keeper, and a new Co-convenor, Sri Pentawati from Surabaya Zoo and Indonesian Babirusa Studbook keeper (Table 2).

The work and activities of the GSMP are also now being supported by the addition of a new GSMP Coordinator, Yonathan, who is based at PKBSI. He is working with Indonesian zoos and studbook keepers to support the implementation of the breeding recommendations as well as working with international GSMP partners to help in organising training and other collaboration activities. This post is kindly funded by Batu Secret Zoo, Taman Safari Indonesia and the international Action Indonesia partners. The GSMP activities also benefit from the continuous coordination of James Burton (Chair, IUCN AWCSG) and Johanna Rode-Margono (South East Asia Field Programme Coordinator, Chester Zoo) and are supported by the substantial expertise and administrative support offered by Nuniek (Taman Safari Indonesia).



**Table 2:** GSMP Committee members as of December 2017

Name	GSMP Role	Affiliation
<b>Banteng</b>		
Ivan Chandra	Convener, International Studbook Keeper	TSI, Indonesia
Steve Metzler	Co-convener, AZA representative	San Diego Zoo, USA
Jamie Ivy	Population biologist	San Diego Zoo, USA
Tony Sumampau	PKBSI representative	TSI, PKBSI, Indonesia
Tim Rowlands	EAZA Banteng EEP Coordinator, EAZA representative	Chester Zoo, UK
Desy Satya Chandadewi	Indonesian government representative	Indonesian Government
Gono Semiadi	Indonesian scientific authority	Indonesian Institute of Sciences LIPI
Satyawan Pudyatmoko	<i>In situ</i> expert	Gajah Mada University, Indonesia
Johanna Rode-Margono	Advisor	Chester Zoo, UK
James Burton	<i>In situ</i> expert, Chair AWCSG	IUCN SSC AWCSG, UK
<b>Anoa</b>		
Terry Hornsey	Convener, EAZA Cattle and Camelid Taxon Advisory Group Chair	Africa Alive! UK
Yohana Tri Hastuti	Co-convener	TSI, Indonesia
Ikeu Sri Rejeki	Indonesian government representative	Indonesian government
Tony Sumampau	PKBSI representative	TSI, PKBSI, Indonesia
Wirdateti	Indonesian scientific authority representative	Indonesian Institute of Sciences LIPI
John Andrews	Population biologist	AZA Population Management Centre, Lincoln Park Zoo, USA
Gerd Noetzold	Anoa International Studbook Keeper, EAZA representative	Leipzig Zoo, Germany
Telena Walsh	AZA Anoa SSP Coordinator, AZA representative	Point Defiance Zoo & Aquarium, USA
Abdul Haris Mustari	<i>In situ</i> expert	Lecturer at IBP University, Indonesia
Ligaya Tumbelaka	Advisor	Lecturer at Bogor Agricultural University, Head of training at PKBSI, Indonesia
James Burton	<i>In situ</i> expert, Chair AWCSG	IUCN SSC AWCSG, UK
<b>Babirusa</b>		
Joe Forys	Convener, Babirusa AZA Studbook Keeper	Audubon Nature Institute, USA
Sri Pentawati	Co-convener, Babirusa PBKSI Studbook Keeper	Surabaya Zoo
Joko Nughroho	Indonesian government representative	Indonesian government
Gono Semiadi	Indonesian scientific authority	Indonesian Institute of Sciences LIPI
Kristin Leus	Population biologist, EAZA and Deputy Chair WPSG	Copenhagen Zoo, Denmark/ CBSG
Tony Sumampau	PKBSI representative	TSI, PKBSI, Indonesia
Thomas Kauffels	Babirusa International Studbook Keeper, EAZA EEP coordinator, EAZA representative	Opel Zoo, Germany
Abdul Haris Mustari	<i>In situ</i> expert	Lecturer at IBP University, Indonesia
Erik Meijaard	<i>In situ</i> expert, Chair WPSG	IUCN SSC Wild Pig Specialist Group
Febry Iskandar	Indonesian government representative	Indonesian government

The next section describes the progress achieved for each of the four agreed roles of the GSMPs in 2017.

### **ROLE 1: Maintenance of a demographically and genetically healthy global *ex situ* population**

The dissemination and adoption of the new breeding and transfer recommendations have been a major focus for the GSMPs in 2017. A special meeting was held at the Indonesian Zoo and Aquarium Associations (PKBSI) annual meeting (RAKORNAS) to discuss the adoption of the breeding and transfer recommendations and what obstacles there may be for zoos to adopt them. It was attended by a number of zoo directors, staff from the Directorate General for the Conservation of Natural Resources and Ecosystems (KKH) including the Director of Conservation and Biodiversity, Senior members of PKBSI including its Secretary General, and James Burton, Chair of the IUCN AWCSG. Presentations were also given at the RAKORNAS by James Burton and Ligaya Tumbelaka on the GSMPs and their successes as well as future plans and opportunities to get involved. Presenting at the RAKORNA was important as it gave the Action Indonesia GSMPs further promotion to Indonesian zoos and their directors and gave these directors the opportunity to meet with GSMP members about how to get involved.

Two training workshops were held in 2017, both of which were aimed at providing Indonesian zoo staff with the knowledge and skills to be able to successfully carry out the breeding and transfer recommendations. These took place at Taman Safari II Prigen in July and Ragunan Zoo in October. The training workshop in Taman Safari II Prigen focused on banteng husbandry and transport and was led by Steve Metzler (San Diego Zoo Global), James Burton (AWCSG), Ivan Chandra (TSI Prigen and Global Banteng Studbook Keeper), Nanang Tejo (TSI Prigen) and Gono Semiadi (LIPI). The training at Ragunan Zoo focused on anoa and babirusa husbandry and transport and was led by James Burton (AWCSG), Ligaya Tumbelaka (PKBSI and IBP), Joe Forys (Audubon Zoo), Liz Wilson (Santa Barbara Zoo), Sarah Roffe (Chester Zoo), Yohana Tri Hastuti (TSI Bogor), Sri Pentatawi (Surabaya Zoo) and Adven Simamora (Anoa Breeding Centre). Both workshops followed similar structures utilising a mixture of presentations and practical sessions. Presentations included basic husbandry, health, enclosure design and how to transport an animal safely. At the anoa and babirusa training the participants also took part in practical sessions where they learnt how to safely move an adult anoa. The banteng workshop had 41 participants from 18 different zoos and organisations whilst the anoa and babirusa workshop had 12 participants from 9 different zoos. The participants were made up of keepers, curators, vets and Nature Conservation Regional Offices (KSDA) staff.

On the 17<sup>th</sup> of October 2017 a meeting was held at the offices of KKH to discuss the endorsement of the new breeding and transfer recommendations for anoa, banteng and babirusa. This meeting was held at the invitation of the Director General of KKH, Ir. Wiratno, the Director of the Conservation of Biodiversity KKH, Bambang Dahono Adji, and two representatives from the GSMP, Tony Sumampau and James Burton. This meeting provided an invaluable opportunity for members of the Action Indonesia collaboration to speak with the Director General and to gain his support for the adoption of the breeding and transfer recommendations, as having his support for the recommendations will lend them greater authority.





**Figure 2:** Group discussion during the Anoa and Babirusa Husbandry and Transportation Training Workshop being led by Joe Forsys (Audubon Zoo), Yohana Tri Hastuti (TSI Bogor) and Adven Simamora (Anoa Breeding Centre)

## **ROLE 2: Support the needs and goals of the regional *ex situ* programmes**

In October 2017 a team of trainers from PKBSI and Chester Zoo delivered a workshop on Zoo Educator Training at Taman Safari II in Prigen, East Java. This workshop's aim was to give Indonesian zoo educators the skills and tools to deliver a diverse and impactful conservation education program, understand about strategic planning, delivery and the importance of evaluation and discuss the difference between education and conservation education. This workshop was delivered through a combination of presentations, group discussions and group activities. The attendance was considerable, with 35 participants from 20 different zoos and aquaria joining. At the end of the workshop the teams from each facility were asked to pledge to make changes to their education programmes within set timescales, which the training team will follow up on and provide continual support for to ensure their success. In addition to the workshop, the Discovery and Learning Department at Chester Zoo and PKBSI developed a toolbox of materials for the zoo educators to support them in the design and delivery of their education programmes. These materials include signage, prewritten talks, top tips for designing talks, and touch tables amongst many others. These were all distributed to the participants at the workshop and can be accessed via the education resources, media and signage pages on the AWCSG website at the following link:

<https://www.asianwildcattle.org/gsmpe/education.html>



**Figure 3:** The training team of Ligaya Tumbelaka (PKBSI) and Hannah Brooks and Charlie Daley (Chester Zoo) presenting at the Zoo Educator Workshop

### **ROLE 3: Effective interface between *ex situ* and *in situ* management**

This role aims at facilitating the effective use of *ex situ* resources, expertise and skills to support *in situ* activities. There were two main successes for this role in 2017. The first and most important was the successful running of a training workshop on Anoa and Babirusa Rescue Techniques at Citra Satwa Celebes Zoo in Makassar, Sulawesi, which was attended by 29 staff from 14 National Park and KSDA from across Sulawesi. This workshop was delivered by the same team who ran the Anoa and Babirusa Husbandry and Transportation Training Workshop at Ragunan Zoo. The workshop was delivered using a combination of theoretical and practical training which included presentations on anoa and babirusa basic husbandry, emergency first aid and transportation techniques. Participants were also introduced to the new draft Standard Operating Procedure (SOP) to help in the care and decision process of managing rescued anoa and babirusa. This protocol was tested with supervised practical sessions and 'real-life' scenarios that the participants had to lead. The SOP is a huge stride forwards for *in situ* conservation efforts for anoa and babirusa in Sulawesi. It provides a standard procedure for how to deal with a reported animal, how to assess its health and determine the best course of action, and what to do with the animal once it has been rescued. Having this SOP will enhance the ability and confidence of rangers when dealing with rescued animals, improve the welfare of rescued animals and increase the chances of successful rehabilitation and release back into the wild.



The second success was the visit to Baluran National Park in East Java and a meeting with its staff in August 2017. An outcome from this visit was the agreement by Steve Metzler (San Diego Zoo Safari Park) and Ivan Chandra (Taman Safari Prigen) to provide support for the enhancement of the banteng breeding centre.



**Figure 4:** Participants from KKH and KSDA offices at the Anoa and Babirusa Rescue Training Workshop attempting to herd an adult anoa into a transport crate

#### **ROLE 4: *In situ* conservation**

*In situ* activities were separated into two types: support of short-term projects on banteng, anoa and or babirusa conservation, and the preparation of one or several long-term conservation projects. In September 2016, a GSMP small grant scheme was launched, with grants provided to projects of 6-12 months duration. The funding of three projects was approved with the help of the GSMP committee's *in situ* experts and independent *in situ* experts. As these projects were only funded in the latter months of 2016, most of the project work took place in 2017 and we can finally share with you the results of each.

##### **1) Selamatkan Satwa Hutan Sulawesi: Sulawesi multi-site outreach for anoa and babirusa conservation**

This project was led by AITo (Alliance for Tompotika Conservation) and focused on developing a comprehensive two-day outreach program and presentations to local schoolchildren and villagers on anoa and babirusa conservation. The aim of this program was to give them an understanding of why the forest, anoa and babirusa are important and need to be conserved and how they can get involved. The presentations were printed upon storyboards so that they could be given anywhere



and are not reliant upon electricity, so even the most remote communities can be reached. Posters and stickers were also produced to increase the impact of outreach to those who didn't attend the courses. So far the outreach program has reached schools in North Sulawesi, Tompotika in Eastern Central Sulawesi and even Buton Island. A training workshop for outreach staff also took place in Tompotika in Eastern Central Sulawesi in July 2017. An evaluation of this project is planned for 2018.

For more info on AITo and their work in Tompotika please follow the link:

<http://www.tompotika.org/welcome-to-alliance-for-tompotika-conservation-2/>



**Figure 5:** Children at schools in Buton taking part in the AITo conservation outreach programme. Photo: David Tosh



## 2) Hairy babirusa (*Babirusa babirusa*) survey on the island of Buru, Maluku Islands.

This project was run by an Indonesian team led by Meytty Pattikawa from My Tours and Travel, Ambon, with advice from Alastair Macdonald of The University of Edinburgh. The survey aimed to identify the current population status of babirusa and other wild pigs on the island of Buru and determine their distribution, trends over the past 20 years and current and prospective threats. This was urgently needed because the last records were from 1990 and it is expected that there has been a decline in the population since then, as the island has seen rapid land use change and increased human immigration over the last 25 years. The study involved conducting questionnaires and interviews with local communities on Buru to determine if there were hunting pressures on babirusa, as well as looking at time-dated landsat images across a 25 year period to examine changes in vegetation cover of the island and field visits to see the quality of remaining habitat.

Babirusa were found to be still present on the island of Buru. Respondents were able to accurately describe the differences between babirusa and the wild boar species also present on the island and had different local names for them. Hunting was found to currently be a minimal threat, due to the majority of the population in the north side of Buru being Muslim. Habitat loss through the removal of forest land for farming and commercial crops (such as coconut and cacao) was found to have had the greatest impact upon babirusa distribution on Buru. The rate of habitat conversion is expected to increase on Buru, with gold mining driving transmigration to the island as people move there seeking wealth. This increasing human population exacerbates the already significant demand for land to grow food and cash crops. What little habitat remains will become ever more fragmented, causing populations to become further isolated. Habitat loss has already significantly affected hairy babirusa populations on Buru, and further loss therefore poses a very serious threat to the species' survival. There is an urgent need for a change to the IUCN Red List assessment and increased protection for this species based on the results of this survey.

An article based on the findings of this project has been published in *Suiform Soundings* and can be found by following the link:

<https://www.dropbox.com/s/6liscocxb3ymta2/Suiform%20Soundings%2016%201.pdf?dl=0>



**Figure 6:** Top left: Aerial view of gold miners camp on Mt Botak, Bottom left: View of the forest clad north-west coast of Buru, Right: Landsat image of Buru showing vegetation cover. White dotted border shows deforested and forested areas, yellow spot is location of gold mine. Images by A.A. Macdonald & M.J. Pattikawa

### 3) Conservation of the babirusa and anoa and their critical habitat, the Nantu Forest, Sulawesi.

Dr Lynn Clayton and the NGO YANI (Yayasan Adudu Nantu Internasional) were supported to conduct daily forest and wildlife protection patrols in the Nantu Wildlife Sanctuary in Gorontalo Province, Sulawesi by YANI's Nantu Protection Units. The Nantu Forest is one of Sulawesi's last remaining intact rainforest ecosystems and has been described as "one of the five most important sites for biodiversity in South-East Asia". Nantu Forest is of particular interest due to a naturally occurring salt-lick where babirusa and anoa congregate and can be observed. By supporting continuous species and habitat patrols at Nantu, the project aimed to address the threats these critical wild populations face from hunting and habitat destruction due to illegal logging, slash-and-burn clearance, encroachment for oil palm planting and illegal gold mining.

The Protection Units are comprised of four YANI team members, six local police and two community members and work in collaboration with the Gorontalo/North Sulawesi Natural Resources Conservation Agency. A total of 84 days of patrols were carried out between March 1<sup>st</sup> and June 30<sup>th</sup> 2017. The patrols removed 29 poachers' string leg snares during a single week of patrols and temporarily detained 6 illegal miners. There has been a significant reduction in illegal gold mining and encroachment within the Nantu Wildlife Sanctuary in 2017 since these patrols have been taking place.

Find out more about the work that YANI does by following the link below:

<https://www.nantuforest.org/>

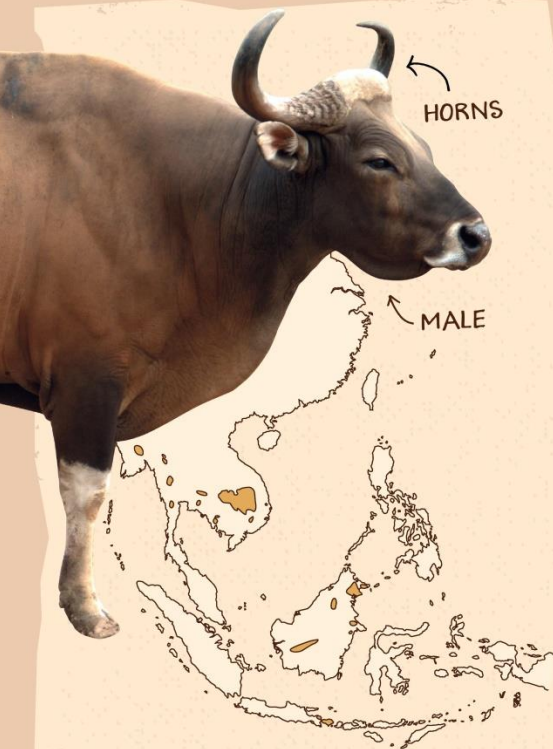


**Figure 7:** Babirusa at the natural salt lick in the Nantu Forest Reserve. Photo: Philipp Engelhorn/YANI

**Figure 8:** Next Page, top: The Zoo Educator Workshop

**Figure 9:** Next Page, bottom: Example of banteng signage produced by Chester Zoo Discovery and Learning Team distributed to participants of the Zoo Educator Training Workshop





# BANTENG



**GLOBAL SPECIES  
MANAGEMENT PLAN**

BANTENG

Banteng are a large species of Asian wild cattle. There are three subspecies generally recognised. *Bos javanicus javanicus* are found on Java and Bali, *Bos javanicus lowi* are found on Borneo and *Bos javanicus birmanicus* inhabit the Asian mainland.

Male banteng are a lot darker in colour, bigger and heavier than females. Both males and females have horns. The males' horns arc upwards and grow up to around 75cm, whereas the females' horns are smaller.

Banteng are classed as Endangered by the International Union for Conservation of Nature (IUCN) which means they are at very high risk of becoming extinct in the wild. They are hunted for their meat, traditional medicines and for sport. Their habitat is being lost due to human activities such as agricultural conversion. There is also the risk of them catching diseases from being in contact with stray domestic cattle and hybridising with domestic cattle.



NOT EVALUATED	DATA DEFICIENT	LEAST CONCERN	NEAR THREATENED	VULNERABLE	ENDANGERED	CRITICALLY ENDANGERED	EXTINCT IN THE WILD	EXTINCT
NE	DD	LC	NT	VU	EN	CR	EW	EX

FEMALE



A very high risk of becoming Extinct in the Wild



**DIET**  
HERBIVORE  
WILL EAT GRASSES, SHRUBS,  
BAMBOO & FALLEN FRUITS



**PREFERRED  
HABITAT**  
DRY DECIDUOUS  
FOREST



**WEIGHT**



**GESTATION**  
ABOUT 10 MONTHS



**YOUNG**



**LIFESPAN**  
UP TO 20 YEARS



MADE BY  
CHESTER ZOO



#### 4. Outlook for 2018

Your contributions made the GSMP activities in 2017 the successes they have been!

We hope that in 2018 we can continue our work with a number of activities. It is going to be a really exciting year as we will be holding the second GSMP Planning Workshop, where we will plan the activities for 2018-2020.

We are always looking for the input of your expertise and funding to be able to conduct all these future activities. If you are interested in helping and want to learn more, then please contact the relevant GSMP Convener (Anoa GSMP: Terry Hornsey, [terry.hornsey@africa-alive.co.uk](mailto:terry.hornsey@africa-alive.co.uk); Banteng GSMP: Steve Metzler, [SMetzler@sandiegozoo.org](mailto:SMetzler@sandiegozoo.org); Babirusa GSMP: Joe Forys, [jforys@AudubonInstitute.org](mailto:jforys@AudubonInstitute.org)) or James Burton: [jamesaburton@yahoo.co.uk](mailto:jamesaburton@yahoo.co.uk).

We need your help to make 2018 an even greater success!

Let's stay in touch!







Thanks to all the Action Indonesia GSMP partners:

