



ACTION INDONESIA

GLOBAL SPECIES MANAGEMENT PLAN



AZA Ungulate TAG meeting, April 2023

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@IUCN_WildCattle

Global Species Management Plan



World Association of Zoos and Aquariums | WAZA
United for Conservation



ASSOCIATION OF ZOO & AQUARIUMS

SSC
Species Survival Commission

AWCSG
Asian Wild Cattle Specialist Group

WFGSG
WAZA/WAZA/WAZA Pig Specialist Group

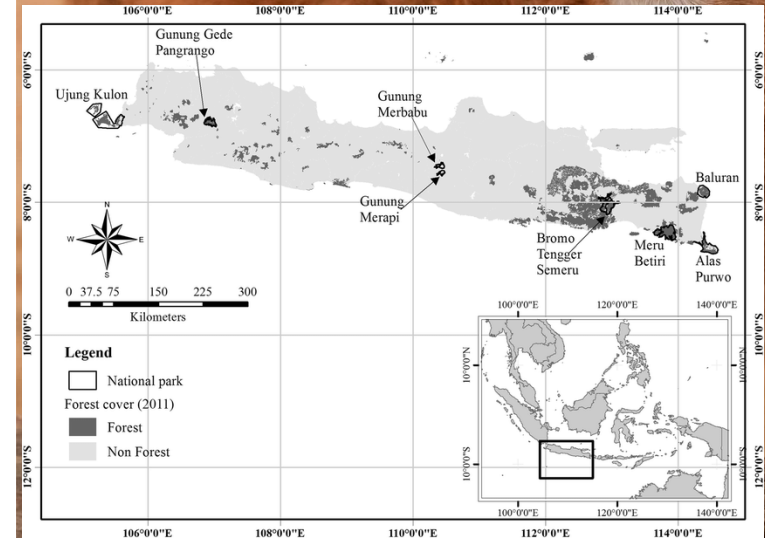
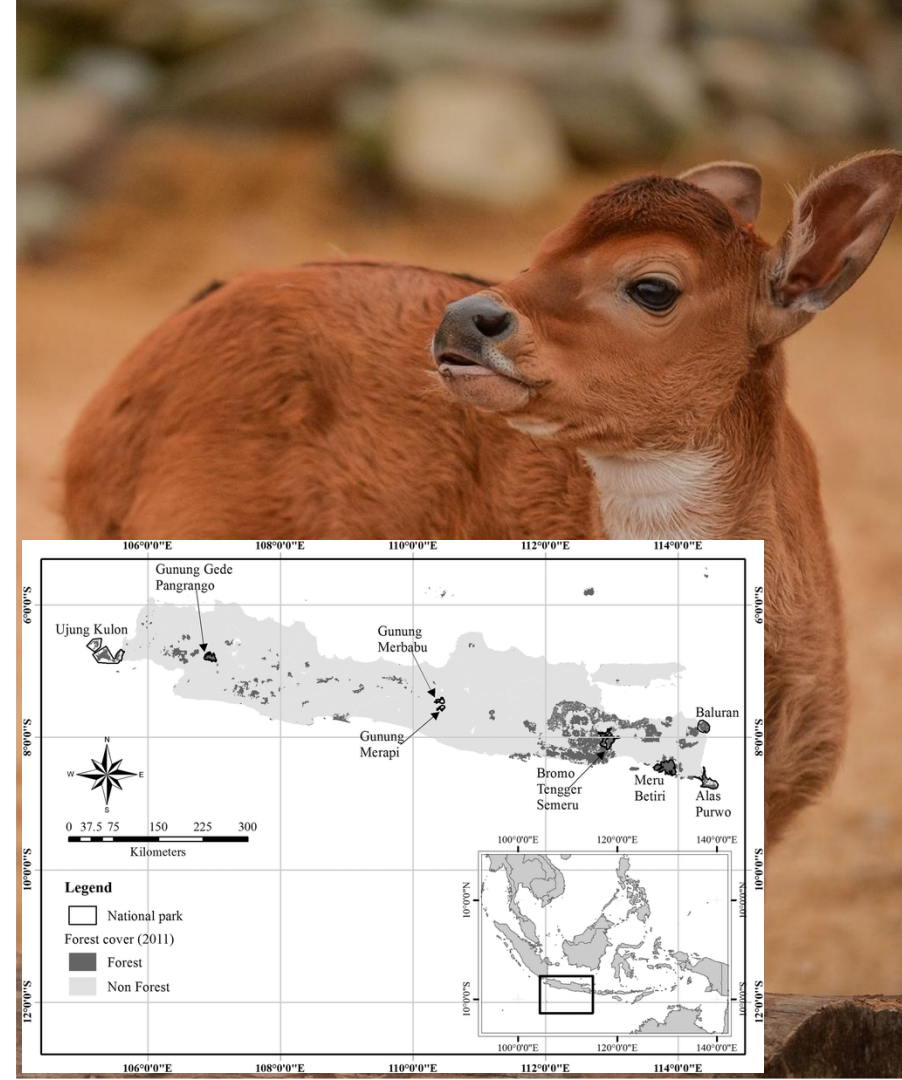


Key Activities 2022-2023



Banteng in situ: Metapopulation approach

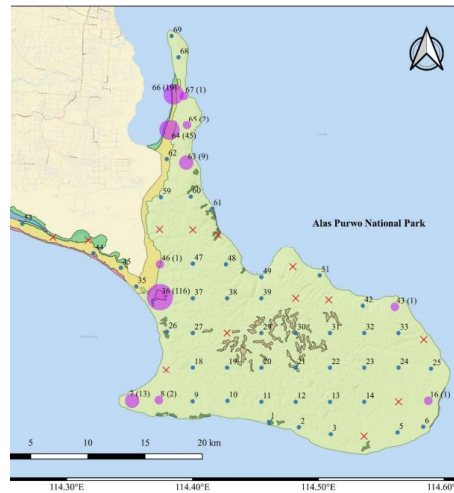
- Background: Javan banteng are restricted to four national parks in Java and we do not have accurate, comparable information of the population density and genetic composition of banteng in each site
- Vision: Metapopulation management of Javan banteng to maximise population viability including genetic diversity.
- In 2022-2025, the GSMP will support the data collection and analysis needed to assess the banteng population in a PVA workshop led by KKH.



Assessing the status of wild populations

- Monitoring banteng populations through camera-trapping in Alas Purwo National Park, East Java
- 69 cameras placed throughout the park in 2021 and 2022

- Results 2021: Banteng were found in Plantation forest, Primary Forest and Savana, with the highest density in the Savana area and in the west of the park, closest to human agriculture. This will be investigated further in 2023
- 2022 data analysis is currently being finalized.



Banteng (*Bos javanicus*) density estimate (by landcover type) in Alas Purwo National Park 2021: Random Encounter Modelling

Land Cover and Density Estimate (Banteng per km² ± Standard Deviation)

- Bamboo forest (0 ± 0)
- Coastal forest (0 ± 0)
- Mangrove forest (0 ± 0)
- Plantation forest (1.32 ± 0.24)
- Primary forest (0.53 ± 0.09)
- Savanna (24.79 ± 3.87)
- Shrubs (0 ± 0)
- Water bodies (0 ± 0)

Camera Trap Locations and ID

- × Lost
- Present

Banteng Sightings

- 1 - 2
- 3 - 13
- 14 - 45
- 46 - 116

Survey Effort:

Camera Traps: 69 - 13 (lost) = 56
Total Survey Days: 70
Survey Period: Sep 2021 to Nov 2021

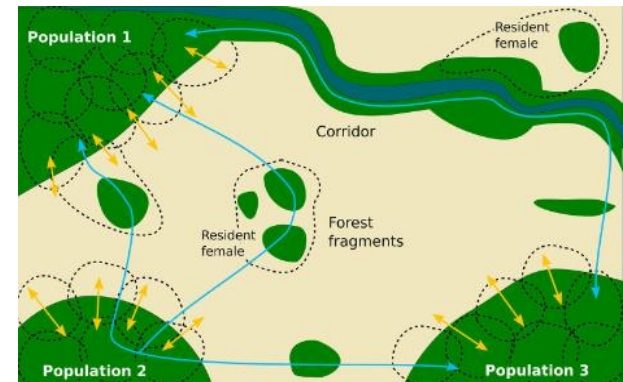


Banteng metapopulation management in Java 2022-2025



The next three years work will allow for metapopulation implementation. These steps include:

- Population monitoring data to understand trend of populations over time (Baluran, Meru Betiri, Alas Purwo, Ujung Kulon)
- Collection and assessment of the genetic diversity inferred from 20 samples from unrelated banteng per population (Baluran, Meru Betiri, Alas Purwo, Ujung Kulon)**
- Population modelling and feasibility study within 3 years to support the development of a metapopulation management plan.



Genetic research

- Sampling of anoa, banteng and babirusa in Indonesian zoos
- **Aim:** characterize the genetic diversity of *ex situ* populations in Indonesian, European and North American Zoos.
- **Sampling progress:** Completed **sampling a total of 31 banteng, 29 babirusa, and 24 anoa from 10 Indonesian zoos.** All samples have been sequenced
- **Next steps:** The genetic data is being analysed alongside capacity building between the GSMPs and Indonesian scientific institutes.



Genetic profile of anoa and babirusa zoo population:



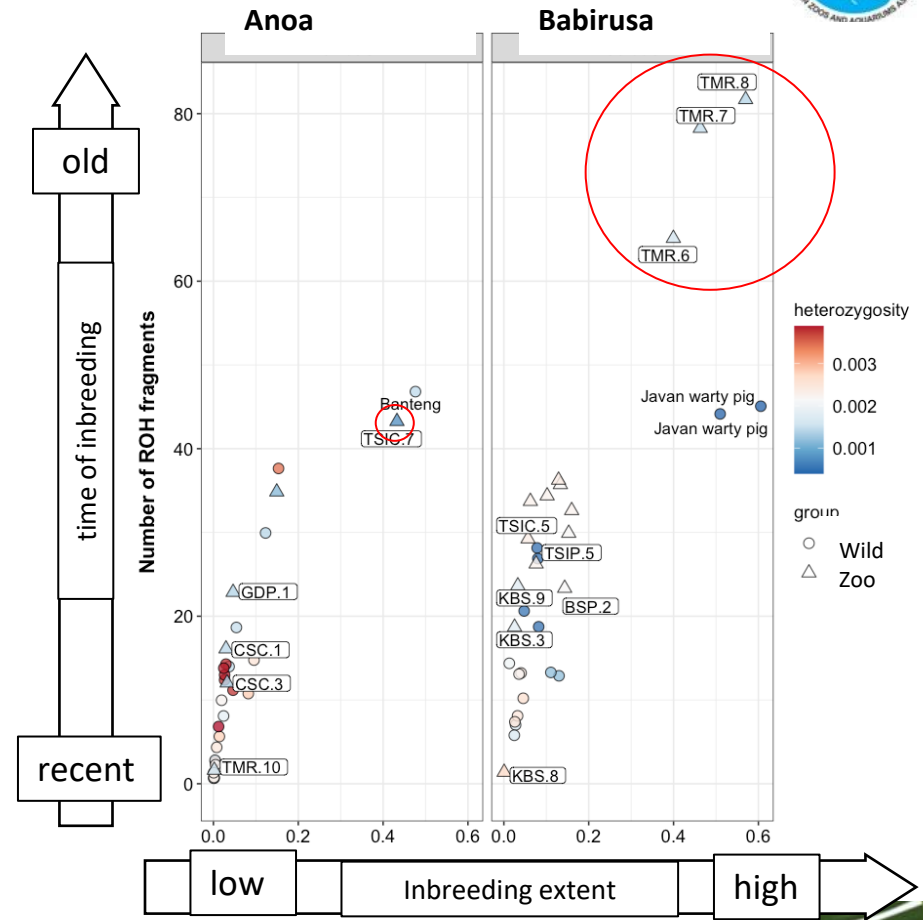
zoo population:

Preliminary Results: Distribution of inbreeding coefficient

~10% of babirusa zoo population (3/29) have high inbreeding coefficient (>0.4)

~4% of the anoa zoo population (1/24) have high inbreeding coefficient (>0.4)

Locating highly inbred individuals will inform breeding and transfer recommendations



Updates from across the GSMP

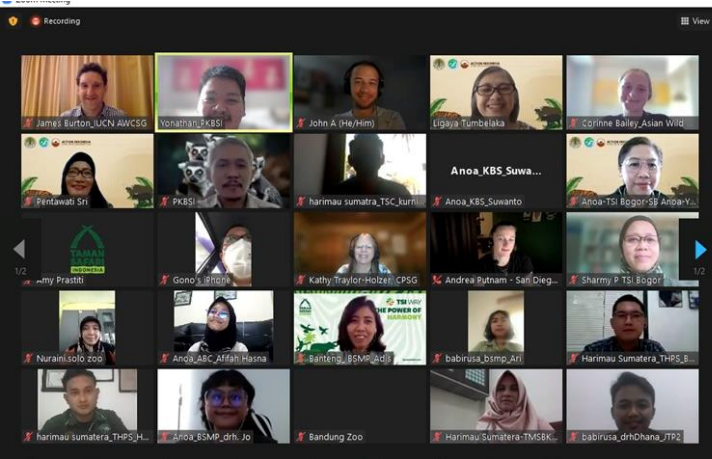


Increasing populations and improving genetic diversity

- **29 banteng, 10 anoa, 9 babirusa** born following breeding recommendations since 2016
- The third set of breeding and transfer recommendations were agreed in January 2023 alongside increased capacity for cooperative breeding in PKBSI

Raising awareness about lesser known threatened species

- 4 AI Days reaching over 3.7million social media users, over 50 zoos participating
- Next Action Indonesia Day: 13th August 2023



Updates from across the GSMP



Sharing husbandry skills and building capacity

- Virtual training in Sumatran tiger husbandry to 63 participants followed up by zoo visits and a workshop in 2023.
- Hybrid biosecurity training to 55 zoo staff



Action Indonesia Masterplan 2023-2025

- Action Indonesia Masterplan developed by all Working Groups, shared in a plenary in September 2022
- Masterplan submitted to WAZA in March 2023.





Upcoming activities:

- Capacity building: Train the trainer (May 2023), Tiger husbandry workshop (Oct 2023),
- Genetic sampling of banteng in 4 national parks in Java (From June 2023)
- Action Indonesia Day 2023, August 13th
- Babirusa and anoa monitoring in Sulawesi in 2023 and 2024
- Action Indonesia SAFE application



How you can help:

- **Banteng genetic sampling in situ: \$10,000**
- **Population monitoring in situ: \$15,000**
- **Zoo visits to provide tailored advice 2023-2024: \$5000**
- **Capacity building workshops in 2023-2024:**
 - husbandry
 - education
 - population management
 - in situ population monitoring





**Action Indonesia SAFE:
Anoa, Babirusa & Banteng**

The SAFE program will support the overarching GSMP master plan with coordinated assistance from the AZA community.

Action Indonesia



- Current status

- Zoo Miami is taking the lead on creating the SAFE application for Babirusa, Banteng, and Anoa.
- In the initial phase of the application.

- How you can help?

- Does your institution have interest in institutional support of the SAFE program?
- Do you hold any of the three Action Indonesia ungulate species?
- Have you donated to Action Indonesia in the past?

Action Indonesia



- Current institutions on board
 - Zoo Miami
 - Point Defiance Zoo
 - The Wilds
 - Audubon Zoo

More information

Contact GSMP:

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SAFE Application enquiries:

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www.actionindonesiagsmp.org



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GLOBAL SPECIES MANAGEMENT PLAN

Thanks for your support:





**GLOBAL SPECIES
MANAGEMENT PLAN**

ANOA
BANTENG
BABIRUSA

