



# Species

ISSUE 63

## 2022 Report of the IUCN Species Survival Commission and Secretariat



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## The IUCN Species Survival Commission (SSC)

The IUCN Species Survival Commission (SSC) is a science-based network of thousands of volunteer experts from almost every country of the world, all working together toward achieving the vision of “a just world that values and conserves nature through positive action to both prevent the loss and aid recovery of the diversity of life on earth.”

Members of SSC belong to one or more of near 200 Specialist Groups, Red List Authorities, Action Partnerships, Task Forces, and Conservation Committees that make up the Network, each focusing on a taxonomic group (plants, fungi, mammals, birds, reptiles, amphibians, fishes, and invertebrates), national species, or a disciplinary issue, such as sustainable use and livelihoods, translocation of species, wildlife health, climate change, and conservation planning.

Framed by the Species Conservation Cycle, SSC’s major role is to provide information to IUCN on biodiversity conservation, the inherent value of species, their role in ecosystem health and functioning, the provision of ecosystem services, and their support to human livelihoods. This information is fed into the IUCN Red List of Threatened Species.

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### 2021-2025 Species Strategic Plan

The IUCN Species Strategic Plan encompasses the joint work of the IUCN Species Survival Commission and a number of partnerships to achieve more than 2,700 targets proposed by the Network during the 2021-2025 quadrennium.

To accomplish those targets, the Species Conservation Cycle was established, which is the conceptual framework for the Network activities. The Species Conservation Cycle’s main purpose is to guide efforts for valuing and conserving biodiversity through three essential components that are linked to each other:

**ASSESS:** Understand and inform the world about the status and trends of biodiversity.

**PLAN:** Develop collaborative, inclusive and science-based conservation strategies, plans and policies.

**ACT:** Convene and mobilise conservation actions to improve the status of biodiversity.



Their implementation requires two transversal components:

**NETWORK:** Enhance and support our immediate network and alliances to achieve our biodiversity targets.

**COMMUNICATE:** Drive strategic and targeted communications to enhance our conservation impact.

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### SSC Species Report

Annual progress in the implementation of the 2021-2025 Species Strategic Plan is documented in the SSC *Species Report*, which consists of a comprehensive description and analysis of the activities and results generated by the members of the SSC Network each year. Each SSC Group contributes to this document by providing a yearly summarised description of their achievements, which is presented in stand-alone reports.

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## Structure of the IUCN SSC Stand-alone Report

Stand-alone reports summarize the activities conducted and results generated by each group member of the SSC. Following, is the structure of the stand-alone report and the contents under each session.

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### Title of the SSC Group

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### Photograph(s) of the Chair / Co-Chairs

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### Group information

Includes names of Chair / Co-Chairs, Vice-Chairs, Deputy Chairs, Red List Authority Coordinators and Program Officers, their institutional affiliations, number of members and social networks currently active.

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### Logo of the SSC Group

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### Mission statement

Includes the mission of the group.

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### Projected impact for the 2021-2025 quadrennium

Includes the description of the impact on species conservation resulting from the implementation of the targets formulated by the group for the 2021-2025 quadrennium.

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### Targets for the 2021-2025 quadrennium

Includes the targets planned by the SSC Group for the 2021-2025 quadrennium ordered alphabetically by component of the Species Conservation Cycle. Each target is labeled with a numerical code (e.g., T-001, T-012) that identifies it in the SSC DATA database and its status for the reported year is indicated (Not initiated, On track or Achieved).

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### Activities and results

Includes the targets for which activities were conducted and results were generated during the reported year, ordered alphabetically, first by component of the Species Conservation Cycle, and second by Activity Category. Description of activities and results includes the indicator that best describes progress, its associated quantitative or qualitative result, and the narrative description of the activity conducted or result obtained. Each activity or result reported is linked to the Key Species Result to which it is mainly associated (e.g., KSR#1, KSR#5).

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### Acknowledgements

Includes the acknowledgements to funding agencies, partners, and persons who contributed to the progress of the targets of the group.

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### Summary of achievements

Summarises information of the group's strategic plan for the quadrennium and progress achieved implementing targets for all the components of the Species Conservation Cycle during the reported year.

Animalia

Fungi

Plantae

National Species

Disciplinary

Action Partnership

Task Force

Red List Authority

Committee

Center for Species Survival

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### Example for the recommended citation:

Rode-Margono, J. 2023. 2022 Report of the Wild Pig Specialist Group. In: Nassar, JM, García, L, Mendoza, L, Andrade, ND, Bezeng, S, Birkhoff, J, Bohm, M, Canteiro, C, Geschke, J, Henriques, S, Ivande, S, Mileham, K, Ramos, M, Rodríguez, A, Rodríguez, JP, Street, B, and Yerena, E (Eds.). 2022 Report of the IUCN Species Survival Commission and Secretariat. International Union for Conservation of Nature. 10 pp.

# IUCN SSC Wild Pig Specialist Group



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Johanna  
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COORDINATOR**  
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**NUMBER OF MEMBERS**  
51

**SOCIAL MEDIA AND WEBSITE**

Facebook: IUCN / SSC Wild Pig Specialist Group  
Website: <https://www.iucn-wpsg.org>

**Mission statement**

The SSC Wild Pig Specialist Group (WPSG) has not yet defined a mission statement. Key components of such a statement would be: 1) viable wild pig populations; 2) all wild pig taxa; 3) threat management; 4) conservation breeding; 5) reintroduction; 6) habitat restoration and management, and 7) resolution of conflicts with people. Most wild pig species are in decline, especially the various species and subspecies in Indonesia and the Philippines. The WPSG uses a combination of strategies to try to reduce these population declines. This primarily includes: 1) research on taxonomy and distribution – the cornerstone of any conservation management, and 2) management of captive and wild populations to prevent the extinction of the most threatened species.

**Projected impact 2021–2025**

We aim to safeguard the small populations of the two Critically Endangered suid species, Pygmy Hog (*Porcula salvania*) and Visayan Warty Pig (*Sus cebifrons*), and to continue the captive breeding and reintroduction programmes. The target for Pygmy Hogs is to ensure a population in the wild of at least 250 individuals. For Visayan Warty

Pig, we aim to conduct the first successful reintroduction programme on the island of Negros. For all other species, we aim to reliably assess population status and trends and to initiate or adapt conservation programmes that can stabilise populations in the wild. For Wild Boar (*Sus scrofa*) we still aim to revise the taxonomy of the current 18 subspecies.

**Targets 2021–2025**

**ASSESS**

- T-003** Assess the taxonomy of Sulawesi ungulates by conducting phylogenetic/taxonomic research, by 2021.  
Status: On track
- T-008** Assess the population status (distribution, numbers of populations, population size) of the Mindoro Warty Pig, by mid-2022.  
Status: On track
- T-013** Survey and monitor the Javan Warty Pig (*Sus verrucosus*).  
Status: On track
- T-014** Clarify the species status of the Bawean Warty Pig (*Sus verrucosus ssp. blouchi*) by the end of 2021.  
Status: Achieved
- T-025** Assess the status of the Giant Forest Hog (*Hylochoerus meinertzhageni*) in Uganda, by mid-2022.  
Status: Achieved

- T-026** Re-assess the Giant Forest Hog status, by the end of 2022.  
Status: Not initiated
- T-027** Conduct comprehensive surveys on all pig species in Indonesia and Malaysia, by the end of the quadrennium.  
Status: Not initiated
- T-028** Assess the phylogenetic relationships of all Philippine pig species, by the end of 2023.  
Status: On track
- T-030** Explore the potential threat of hybridisation to wild pig species, in relevant species, by the end of the quadrennium.  
Status: Not initiated
- T-034** Conduct ecological research on the Pygmy Hog (habitat, determinants of presence, etc.), by the end of the quadrennium.  
Status: On track
- T-037** Develop a database of ancient and recent data on the distribution of Giant Forest Hog in order to update its geographical range, provide a basis for the analysis of its range contraction and contribute to a future assessment of its Red List status.  
Status: Achieved
- T-038** Study the morphology and phenotypic differences between the two species of Warthog.  
Status: On track





Sunda Bearded Pig (*Sus barbatus*)  
Photo: Siew Te Wong



Pygmy Hog (*Porcula salvania*)  
Photo: Roland Wirth

**T-039** Study the eco-ethology, ethnobiology, and sympatric relationships between the Red River Hog (*Potamochoerus porcus*) and the Common Warthog (*Phacochoerus africanus*) in different ecosystems in southern Benin.

Status: On track

**T-048** Study of the biogeography of the Desert Warthog (*Phacochoerus aethiopicus*) and Common Warthog (*P. africanus*) in the Horn of Africa, by the end of 2024.

Status: On track

#### **PLAN**

**T-001** Develop a Conservation Needs Assessment and Planning Strategy for all species, with the Conservation Planning Specialist Group (CPSG), by the end of 2022.

Status: Not initiated

**T-002** Develop an EAZA Tapir and Suiform Regional Collection Plan.

Status: Achieved

**T-004** Finalise the output of the West Visayan Conservation Workshop, by mid-2021.

Status: Achieved

**T-012** Develop action plans in relation to the threat of African Swine Fever to prioritise wild pig species in Asia, by end-2021.

Status: Achieved

**T-017** Develop action plans in relation to the threat of African Swine Fever to all relevant wild pig species in Asia, by end-2022.  
Status: Not initiated

#### **ACT**

**T-005** Conduct the first successful Visayan Warty Pig reintroduction programme, by 2024.

Status: Achieved

**T-006** Streamline the efforts of conservation breeding of Visayan Warty Pigs on Negros and Panay through networking, capacity building and breeding plans.

Status: On track

**T-009** Ensure active and comprehensive collaboration of conservation breeding of Javan Warty Pigs, by mid-2022.

Status: On track

**T-011** Secure at least one safe and pure population of Javan Warty Pig in the wild, by end of 2022.

Status: On track

**T-015** Establish a successful release programme for Javan Warty Pigs in East Java, by end of 2024.

Status: On track

**T-024** Implement the Babirusa (*Babyrusa* spp.) Global Species Management Plan.

Status: On track

**T-031** Develop a database for African pig species data, by the end of 2022.

Status: Achieved

**T-032** Release 60 Pygmy Hogs in the next five years, starting from 2020, in the Rupahi grassland of Manas National Park, by the end of the quadrennium.

Status: On track

**T-033** Identify and monitor the status of wild and released populations of Pygmy Hogs.

Status: On track

**T-035** Conduct a Disease Risk Analysis (DRA) to establish a robust biosecurity protocol to ensure the management of a healthy breeding programme for Pygmy Hogs, by the end of 2021.

Status: Achieved

**T-044** To find at least one more suitable translocation site for Visayan Warty Pig (*S. cebifrons*), prepare, conduct and evaluate the translocation to this site, by the end of 2025

Status: Not initiated

**T-045** Protect the newly established population of Visayan Warty Pig at Bayawan Nature Reserve.

Status: Not initiated

**T-046** Conduct habitat management and improvement for 10 km<sup>2</sup> for Pygmy Hog (*Porcula salvinia*), by the end of 2025.

Status: Not initiated

**T-047** Conduct a community-based biosecurity programme for Domestic Pig close to our breeding centre and around Manas National Park to mitigate the risk of ASF to captive Pygmy Hogs, by the end of 2025.

Status: Not initiated

#### **NETWORK**

**T-016** Formalise advisory committee and regional advisors, by the end of 2021.

Status: Achieved

**T-018** Update membership and recruit new members for neglected species and other disciplines.

Status: On track

**T-020** Develop a fundraising plan, making contacts with the pig production industry for fundraising, by the end of 2021.

Status: Not initiated

**T-021** Build an effective network of WPSG Africa experts, by the end of 2021.

Status: On track

**T-022** Develop a system for regular meetings (e.g. online) to improve group dynamics, by the end of 2021.

Status: Not initiated

**T-023** Use the International Symposium on Wild Boar and Other Suids as a platform for WPSG activities in 2022.

Status: Achieved

**T-036** Finalise a new memorandum of understanding (MoU) between the main partners for the continuation of the Pygmy Hog release programme for five more years, by the end of 2021.

Status: On track

**T-042** Maintain active membership, and inclusion of all members in activities and exchanging expertise in activities by providing regular options to communicate and network, continuously.

Status: Not initiated

**T-043** Recruit a Programme Officer to facilitate the activities of the group.

Status: Not initiated

#### **COMMUNICATE**

**T-010** Regularly publish the WPSG's Newsletter *Suiform Soundings*.

Status: On track

**T-019** Update the website, including a restricted member area for communication, by mid-2021.

Status: Achieved

**T-029** Update all members on African Swine Fever (ASF) globally.

Status: On track

**T-040** Recruit a Programme Officer to facilitate the activities of the group.

Status: Not initiated

**T-041** Recruit a Programme Officer to facilitate the activities of the group.

Status: Not initiated

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### **Activities and results 2022**

#### **ASSESS**

##### **Research activities**

**T-003 Assess the taxonomy of Sulawesi ungulates by conducting phylogenetic/taxonomic research, by 2021.** (KSR 5)

Number of research projects completed or supported by SSC members per taxonomic group and region: 0

Result description: An Indonesian PhD student has been working on the genetics component and will finalise her work in early 2023. Babirusa taxonomy work is also ongoing with Edinburgh University.





Visayan Warty Pigs (*Sus cebifrons*)  
Photo: Talarak Foundation Inc.

**T-008 Assess the population status (distribution, numbers of populations, population size) of the Mindoro Warty Pig, by mid of 2022. (KSR 5)**

Number of research projects completed or supported by SSC members per taxonomic group and region: 4

Result description: The DAF activities of 2022 have been mostly the continuation of what started in 2021. Most camera trap fieldwork finished in 2022, with only one round left in MCWS. One oral presentation at the International Symposium for Wild Boar and other Suids 2022 was conducted. Following those activities, DAF managed to collect data from Mindoro Warty Pig (*Sus oliveri*), although all of them have tamaraw as the focus of research: 1) Mt. Calavite Wildlife Sanctuary Protected Area (MCWS) (Municipality of Paluan, Occidental Mindoro): Ongoing camera trap occupancy survey with 120 placements and 20 camera trap devices covering a total of 1,200 ha. The field implementation started in December 2021 but, unfortunately, the end of the field part of the research has been postponed several times for different technical reasons. Currently, the expected retrieval of the cameras will be in May 2023. The habitats of the study area are composed of different forest types and grassland; 2) Aruyan-Malate region (Municipality of Sablayan, Occidental Mindoro): in May 2022, we finished with the field implementation of a camera trap

occupancy survey. It covered around 1,000 ha of lowland dry tropical forest in two different fieldworks: 60 positions covered with 15 cameras in the first quarter of 2021 and 80 positions covered with 20 cameras between December 2021 and May 2022. Mindoro Warty Pig was captured in a total of 12 placements; 3) Mts Iglit-Baco Natural Park (MIBNP): after the fourth repetition of Double Observer Distance Sampling of Dungs for tamaraw, an operation that we have always used to collect data from Mindoro Warty Pig and Philippine Deer, the data corroborate the lower relative abundance of the pig comparing with tamaraw and deer. The design consists of 27 transects of 500 m within the tamaraw counting area, covering a total of 2,200 ha, composed mostly of grassland with small forest patches; 4) Tamaraw metapopulation project: The Tamaraw Conservation Program (TCP), with the collaboration of DAF, has been working to assess the total distribution of tamaraws in the whole island of Mindoro. The main methodology of the project is foot surveys in areas with the suspected presence of tamaraws. We are also using this opportunity to collect signs of the presence of Mindoro Warty Pigs. The initial results suggest a wide presence of pigs, but we do not have information on the possible presence of Domestic Pigs from the indigenous communities in the areas, which could be interfering with our results.

**T-014 Clarify the species status of Bawean Warty Pig (*S. blouchi*) by the end of 2021. (KSR 5)**

Number of research projects completed or supported by SSC members per taxonomic group and region: 1

Result description: The genomic assessment supports the status of *Sus blouchi* as a single species previously proposed based on morphometric data. Bawean Warty Pig was found to have split from Bawean Warty Pig at least 166,000 years ago as a result of a founder event. We concluded that *Sus blouchi* requires full IUCN species status. The publication entitled 'Conservation prioritisation through genomic reconstruction of demographic histories applied to two endangered suids in the Malay Archipelago' was submitted for publication to the journal *Diversity and Distributions*.

**T-034 Conduct ecological research on the Pygmy Hog (habitat, determinants of presence, etc.), by the end of the quadrennium. (KSR 5)**

Number of research projects completed or supported by SSC members per taxonomic group and region: 0

Result description: A fine-scale habitat mapping and detection of invasive species in the Manas grassland was conducted in 2022. The study confirmed that the presence of the invasive alien plant species *Chromolaena odorata* has a negative impact on Pygmy Hog habitat suitability. The study is in process to be published. Apart from that, regular habitat monitoring is being carried out in both Manas and Orang National Park.





*Sus barbatus ssp. oi* in Singapore Zoo  
Photo: Roland Wirth

**T-037 Develop a database of ancient and recent data on the distribution of Giant Forest Hog in order to update its geographical range, provide a basis for the analysis of its range contraction and contribute to a future assessment of its Red List status.** (KSR 5)

Number of research projects completed or supported by SSC members per taxonomic group and region: 1

Result description: In 2022, the basic design and content of the ForestHogBase were completed. This is a living database and will be updated when new locality data become available. It holds sufficient data to update the GFH distribution map, discuss the progressive shrinking of its range and draw conclusions and recommendations on the protection of this species. The lack of progress in this study is only due to the project leader's health condition.

**T-038 Study the morphology and phenotypic differences between the two species of Warthog.** (KSR 5)

Number of research projects completed or supported by SSC members per taxonomic group and region: 0

Result description: Warthog observations in the Horn of Africa (including Kenya), complemented by photographic material from the region, are used to describe phenotypic and skull differences between the

Desert Warthog and the Common Warthog. It is of importance that the two taxa are readily distinguished in the field as they occur in sympatry in various parts of their geographic range. Although various distinguishing phenotypic characters of both taxa have been identified, described and widely communicated, new diagnostic traits are still being found (e.g., muzzle width). During the next phase, measurements will be obtained from photographic material to quantify some of the differences in various body parts.

**ACT  
Conservation actions**

**T-005 Conduct the first successful Visayan Warty Pig reintroduction programme, by 2024.** (KSR 10)

Number of conservation translocations conducted: 1

Result description: After the Conservation Translocations there is now an estimated over 50 individuals in Bayawan Nature Reserve. These comprise at least two groups of females with approximately three adults and 12 young each, and 8-10 adult males known in the reserve. Young individuals and known adults are readily seen on camera traps, with no sign of human poaching in the reserve. Hence, this release is rated a success.

**T-009 Ensure active and comprehensive collaboration of conservation breeding of Javan Warty Pigs, by mid-2022.** (KSR 10)

Active collaboration for breeding of Javan Warty Pig: Ongoing.

Result description: No further progress. There is a studbook and some exchanges being done. The reintroduction project in Baluran, and the JaSpeR Project in West Java offer opportunities with exchanges between *ex situ* and *in situ* (e.g. boosting genetic diversity of the captive population and/or releasing captive animals into the wild). An actual studbook and holder of this would be very useful to organise all the holding facilities and will benefit the conservation of this species in the *ex situ* environment. Without this structure, *ad hoc* decisions will continue to be common as facilities need to progress and have an exit strategy for individuals.

**T-011 Secure at least one safe and pure population of Javan Warty Pig in the wild, by end of 2022.** (KSR 10)

Number of areas under management for the species or group of species: 0

Result description: The biggest threat to the JWP population is hunting – for sports and crop protection. To reduce conflict between JWPs and communities, the project conducted experiments on how to best protect community farmland from pig attacks and compared costs and effectiveness. Some



effective methods have been rejected by local communities due to cost and security concerns. Tests conducted on farmland and interviews with farmers show that pigs do more damage to farmland when crops (rice, corn, peanuts) are near harvest. The use of combining traditional methods such as the installation of colour rope (rapia), camphor, scarecrow and can sound is proven to increase crop protection. The disadvantage of these methods is that they are effective for short periods, so it is recommended to install these methods when approaching harvest, not from the beginning of planting. The test results of setup combination of traditional methods plus guarding with dogs before harvest were able to fully secure the farm from pig attacks. This year, an anthropologist was consulted in raising awareness for JWP to ensure our program is accepted by the community. He has now completed a 'stakeholder mapping'. Due to slower progress than expected, the year target will be changed from 2022 to 2024.

**T-032 Release 60 Pygmy Hogs in the next five years, starting from 2020, in the Rupahi grassland of Manas National Park, by the end of the quadrennium. (KSR 10)**

Number of conservation translocations conducted: 0

Result description: In June 2022, 10 animals were released (three males and seven females). Now the total released reaches up to 36 individuals between 2020 and 2022 in the Manas National Park. Six of the released hogs of 2022 had radio transmitters implanted. From radio telemetry, it was learned that the area is not very suitable for hogs and when they were exposed to degraded habitat they were killed by predators. Now the project is looking for another suitable patch of grassland for future release. Cameras were installed traps to monitor the released hogs for nearly six months and Pygmy Hogs were located in two sites.

**T-033 Identify and monitor the status of wild and released populations of Pygmy Hogs. (KSR 10)**

Number of conservation translocations conducted: 1

Result description: Monitor of wild and reintroduced population is a continuous process and we need to carry on with this until we become able to design a proper estimation methodology, the target of which is 2025.

**Synergy**

**T-031 Develop a database for African pig species data, by the end of 2022. (KSR 10)**

Database developed: Ongoing.

Result description: Since 2019, a database (WildPigBase) has been established for the three genera of African suids. This database is accessible online to WPSG members – see below. The WarthogBase section contains detailed information on historic and recent observations on the two species of warthog over their geographic distributions. Historic and current distribution maps have been compiled and have already provided a contribution to a research team from the Sapienza University of Roma (led by Dr Michaela Pacifici) on selected mammals' habitat availability between retained and lost ranges. This information will also contribute to the next Red List status assessment for these two species. Another important source of information available online is WPSG's 'African Wild Pig Resource Platform' (<https://www.wildsolutions.nl/african-wild-pigs/>) which provides open access to PDF copies of key bibliographic references on warthogs. Now completed in its basic design and content, the WarthogBase is a living database and will be updated as new data becomes available. It has already been used to produce the maps presented for De Jong *et al.* 2023. 'Biogeography and conservation of Desert Warthog *Phacochoerus aethiopicus* and Common Warthog *Phacochoerus africanus* (Artiodactyla: Suidae) in the Horn of Africa'. *Mammalia* 87(1): 1-19. <https://doi.org/10.1515/mammalia-2022-0048>.

**Technical advice**

**T-006 Streamline the efforts of conservation breeding of Visayan Warty Pigs on Negros and Panay through networking, capacity building and breeding plans. (KSR 10)**

Effective collaboration between different breeding centres; technical advice and funding offered to ensure effective breeding: Ongoing.

Result description: Unfortunately, there have not been any further collaborations or interactions between Talarak (the main contact for WPSG) and Centrop or Mari-It. Neither site appears to be doing much with its animals, hence these have been sent out to other private satellite centers instead of official breeding centers. Bristol Zoo Gardens is in contact with Centrop for improvement, e.g., with respect to culling animals in the overpopulation groups.

**T-009 Ensure active and comprehensive collaboration of conservation breeding of Javan Warty Pigs, by mid-2022. (KSR 10)**

Number of technical consultations provided to support conservation actions: 0

Result description: No further progress. There is a studbook, and some exchanges are being done. The reintroduction project in Baluran, and the JaSpeR Project in West Java offer opportunities with exchanges between *ex situ* and *in situ* (e.g., boosting genetic diversity of the captive population and/or releasing captive animals into the wild).

An actual studbook and holder of this would be very useful to organise all the holding facilities and will benefit the conservation of this species in the *ex situ* environment. Without this structure, *ad hoc* decisions will continue to be common as facilities need to progress and have an exit strategy for individuals.

**T-024 Implement the Babirusa (*B. spp.*) Global Species Management Plan. (KSR 10)**

Number of technical consultations provided to support conservation actions: 5

Visayan Warty Pig (*Sus cebifrons*)  
Photo: Talarak Foundation Inc.



Result description: In 2022, the GSMP Husbandry Working Group and PKBSI delivered a hybrid half-day biosecurity training session at the PKBSI annual meeting (Rakornas) in Bali in November. The session was held at Bali Zoo, with 45 in-person and 10 online participants including vets and curators from Indonesian zoos. The session included speaker Dr Ni Luh Putu Ika Mayasari from IPB University on common zoonotic diseases and the importance of biosecurity in prohibiting the spread of disease, and Amanda Guthrie from ZSL presenting on biosecurity measures for diseases including African Swine Fever, Foot and Mouth and Avian Flu. Participants worked together to develop biosecurity risk assessments for different disease scenarios. Evaluation of the training demonstrates a 16% increase in participant knowledge about biosecurity and its application within their zoos. Four population managers provided technical mentoring and training of Indonesian studbook keepers and of the PKBSI-GSMP Programme Officer, in collecting and analysing data (one manager for Babirusa). Studbook information compiled by the studbook keepers informed the third set of breeding and transfer

recommendations which were finalised in 2022 and will be shared in early 2023. In 2022, the GSMP supported the recruitment of a new staff member to coordinate the breeding and transfer recommendations process with zoos. Since the recommendations process began in 2016, there have now been at least 48 recommended births, including nine Babirusa, 10 Anoa, and 29 Bantengs. The 2023-2025 GSMP masterplan was developed in 2022 and plans of each Working Group were shared in a virtual plenary held on September 16. The plenary was hosted by the Ministry of Environment and Forestry Indonesia and attended by 120 participants from Indonesia, Europe, and the US, including representatives from the Indonesian government and national parks, the Indonesian Zoo Association, EAZA, and the IUCN SSC. Technical training and consultations from two genetic experts from Copenhagen Zoo and Queen Mary's University have strongly supported the PKBSI-led sampling and genetic assessment of the founder animals of the Indonesian zoo populations of anoa, Babirusa and banteng. Assessment of founder animals is particularly important, as their genetics are underrepresented in the global zoo population. In 2022, sampling was completed for it includes

30 Bantengs, 30 Babirusa and 25 Anoa. Following completion of the sampling and genome sequencing, the data is being analysed by BRIN and Copenhagen Zoo. Initial results in developing genetic profiles of the zoo populations of anoa and Babirusa have identified individuals with high inbreeding coefficients. Preliminary results indicate that 10% of Babirusa zoo population (3/29) have a high inbreeding coefficient (>0.4), compared to 4% of the anoa zoo population (1/24). Locating highly inbred individuals will inform breeding and transfer recommendations.

## NETWORK

### Synergy

**T-023 Use the International Symposium on Wild Boar and Other Suids as a platform for WPSG activities in 2022. (KSR 2)**

Number of WPSG members joining the symposium: 8

Result description: The Symposium was a good success, with eight members joining and meeting up for a WPSG meeting. A manuscript with a summary of the meeting was submitted to Suiform Soundings, to be released in the first issue of 2023.





Visayan Warty Pig (*Sus cebifrons*) in breeding center  
Photo: Talarak Foundation Inc.

**T-036 Finalise a new memorandum of understanding (MoU) between the main partners for the continuation of the Pygmy Hog release programme for five more years, by the end of 2021.** (KSR 1)

Number of 'in kind' partnerships established and maintained: 0

Result description: The draft MoU was sent to MoEF&CC for their approval in January 2019 and reminders were sent a couple of times. However, there were no responses despite communication. The key partners now would like to discuss in the forthcoming governing partners meeting any possible MoU with the Forest Department, Govt of Assam as there are similar MoU between the Assam government and other NOGs.

#### **COMMUNICATE** **Communication**

**T-010 Regularly publishes the WPSG's Newsletter *Suiform Soundings*.** (KSR 12)

Number of Species e-bulletin, Save Our Species newsletter, SSC Groups' newsletter editions produced: 2

Result description: Up to date two issues per year published, hence on track. Issues can be found at <https://www.iucn-wpsg.org/>.

**T-029 Update all members on African Swine Fever (ASF) globally.** (KSR 12)

Number of group update communications delivered: 2

Result description: Genetic updates were infrequent due to time constraints.

#### **Acknowledgements**

Thank you to all WPSG members who actively contribute to the work of the WPSG, especially to the Regional Advisors, Red List Authority, *ex situ* and African Swine Fever experts, Suiform Soundings Chief Editor, and Social Media Officer. We would also like to thank Cologne Zoo for providing the Chair with the time and space to work on WPSG activities. The collaboration with the IUCN SSC Asian Wild Cattle Specialist Group in terms of the Action Indonesia activities for the conservation of Babirusa has been superb, as usual.

#### **Summary of achievements**

Total number of targets 2021–2025: 47

Geographic regions: 14 Global, 8 Africa, 25 Asia, 1 Europe

Actions during 2022:

Assess: 6 (KSR 5)

Act: 9 (KSR 10)

Network: 2 (KSR 1, 2)

Communicate: 2 (KSR 12)

Overall achievement 2021–2025:

