Wild Pig, Peccary and Hippo TAG

AKA Picco TAG

TAG Leadership

TAG Chair	Martin Ramirez, Woodland Park Zoo
Vice Chair	Vacant
Secretary	Dawn Petefish Peoria Zoo

TAG Advisors

Vet Advisor

Cora Singleton

Reproductive Advisors

Annie Newell-Fugate

Endocrine Advisor for Hippos

Catharine Wheaton

Field Conservation and Husbandry

Jeff Holland

TAG Steering Committee

RoxAnna Breitigan, The Living Desert

Joe Forys, Audubon Zoo

Randy Reiches, San Diego Safari Park

John Davis, Riverbanks Zoo & Garden

Lisa Smith, Great Plains Zoo & Delbridge Museum of Natural History

Program Highlights

Pygmy Hippos

Christie Eddie,

Henry Doorly Zoo

Help recruit new institutions and encourage them to support Pygmy Hippo *in situ* projects.

River Hippos

John Davis,

Riverbanks Zoo

- Help with solution for extra males
- New institutions or institutions interested in housing additional animals should contact the SSP Coordinator

Program Highlights

Babirusa

Joe Forys,

Audubon Zoo

- GSMP candidate
- SSP is exporting 3.2 to EAZA.

Visayan Warty Pig

Craig Miller,

Jacksonville Zoo

More support from holders for in-situ conservation projects.

Program Highlights

Collared Peccary

No longer a program

Thanks to Jim Haigwood at LA for his continued work with this species

Chacoan Peccary

Dennis Meritt

Potawatomi Zoo

- Financial support of in-situ work in Paraguay at Proyecto Tagua
- Encourage institutions to ship out collared peccaries and replace them with Chacoan peccaries

Program Highlights

Red River Hog

Matt James ,

Miami Zoo

Red River Hogs are taking up valuable space for the more endangered pig and peccary species (Babirusa, Visayan Warty Pigs and Chacoan Peccaries)

Common Warthog

Lisa Smith,

Great Plains Zoo

- Inbreeding – lack of unrelated adult animals/ New genetics required – must come from **known** lineages to be helpful
- Challenges with some pairings/introductions
- Several institutions wanting to bring in unknown genetic stock from the private sector

Regional Collection Plan

Babirusa

Species: Babirusa (*Babyrousa cele bensis)*
Program: Species Survival Plan® Yellow SSP

AZA Population Status
AZA: 57 (27.30.0) in 14 institutions*

Wild Population Status
CITES: Appendix I
IUCN: Vulnerable
USFW: Endangered

Program Status
North American Studbook Keeper:
Joe Forys (jforys@audubon institute.org)

North American Program Leader:
Jeff Holland (jeff.holland@lacity.org)

Other Regional Program Status
(ZIMS 2015)

Europe: 8.16 in 7 institutions
Africa: 0.0
Asia: 14.21 in 2 institutions

Conservation Projects
1. Bogani Nani Wartabone Park http://www.wcs.org/saving-wild-places/asia/boganinani-wartabone-indonesia.aspx

2. Saving Sulawesi babirusas and anoas, and their critical habitat, the Nantu Forest http://sospecies.org/sos_projects/mammals/babirusa/

Photo courtesy of Masterrah, WikiCommons

AZA Program Summary
Sustainability Score: 53.4

Target Population Size: 100

Program Goals and Objectives

1. Recommend 22 transfers to address institutional requests or make new breeding pairs.

2. Add new institutions to help the population continue to grow.
3. This program is working with other regions globally in order to better meet the demographic and genetic needs of this species worldwide.

Babirusa SSP Demographic Summary Table*

Current SSP population size	60 (28.32.0)
Number of animals excluded from genetic management	4
Mean generation time (in years)	6.5
Projected growth rate from life tables (lambda)	1.052
Recent average population growth rate (5 year lambda)	4.6% (1.046)

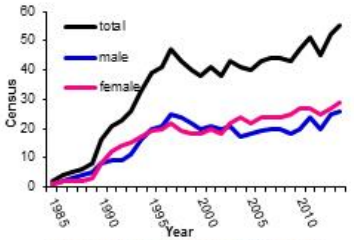
Babirusa

Species: Babirusa (*Babyrousa celebensis)*
Program: Species Survival Plan® - Yellow SSP

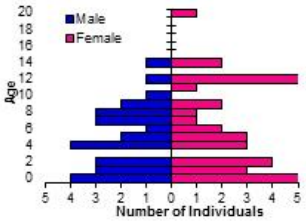
Babirusa SSP Genetic Summary Table*

Founders	3
Founder genome equivalents (FGE)	1.55
Current gene diversity (GD %)	67.83
Population mean kinship (MK)	0.3217
Mean inbreeding (F)	0.2631
% pedigree known before assumptions and exclusions	50
% pedigree known after assumptions and exclusions	100
Effective population size/census size ratio (Ne / N)	0.3368
Years To 90% Gene Diversity	93
Gene Diversity at 100 Years From Present (%)	53.4

Babirusa SSP Demographics*



Census of babirusa in SSP from 1985 to 2014 by



Age structure of the Babirusa SSP population

*Holland H, Forys J, Putnam A. 2015. AZA Population Analysis & Breeding and Transfer Plan for Babirusa (Babyrousa

PVA's

Table 1. Overview of PVA results for Wild Pig, Peccary, and Hippo Animal TAG Animal Programs.

AZA Animal Programs	Current Population Status and Challenges	Baseline Scenario PVA Risk Results	Improved Scenario PVA Risk Results	Summary of Results
Babirusa (*Babyrousa celebensis*)	Increased in the past decade to 55 individuals with 63% GD. Genetic metrics are poor and unrelated individuals are only available to import in very small numbers.	Critical	Critical	Could sustain itself demographically by increasing breeding, but GD would be extremely low and inbreeding would be extremely high in 100 years.
Pygmy Hippopotamus (*Choeropsis liberiensis liberiensis*)	Increased in the past decade to 32 individuals with 94% GD. Space limitations make it difficult to form a large number of breeding pairs.	Endangered	Vulnerable	Adding individuals at a non-SSP institution into the managed population and increasing breeding would grow the population to a larger size, reduce extinction risk, and retain higher GD, but GD would still fall below 90% in 100 years.
River Hippopotamus (*Hippopotamus amphibius*)	Decreased in the past decade to 80 individuals with 95% GD. Current exhibit spaces limit opportunities for successful introductions and breeding.	Critical	Vulnerable	Increased breeding would reduce extinction risk, maintain the population at its current size, and retain higher GD, but GD would still fall below 90% in 100 years. A higher breeding rate would be difficult to achieve unless new breeding facilities are constructed.
Red River Hog (*Potamochoerus porcus*)	Increased rapidly in the past decade to 216 individuals with 87% GD. Managers have maintained high breeding rates among successful pairs, and extra individuals are exported from the population.	Vulnerable	Vulnerable*	Could sustain itself demographically by balancing breeding and export rates, but GD would fall below 90% in 100 years.
Chacoan Peccary (*Catagonus wagneri*)	Increased in the past decade to 68 individuals with 87% GD. There is potential to import new potential founders into the population.	Vulnerable	Vulnerable	Could fill increased space by increasing breeding, but GD could still fall below 90% in 100 years. Higher GD could remain if new imports are completely unrelated potential founders.
Visayan Warty Pig (*Sus cebifrons*)	Increased in the past decade to 69 individuals with 75% GD. Genetic metrics are poor and unrelated individuals are not available for import.	Endangered	Endangered*	Could sustain itself demographically by continuing to maintain recent breeding rates. GD would be very low and inbreeding would be very high in 100 years.
Common Warthog (*Phacochoerus africanus*)	Decreased in the past decade to 124 individuals with 81% GD. Frequent exchanges with private holders and lack of SSP cooperation has made it difficult to provide and fulfill genetic management recommendations.	N/A	Endangered	Baseline genetics and risk status could not be calculated due to high recent exchange rates. The population could sustain itself demographically without imports or exports if breeding is slightly increased, but GD would fall below 90% in 100 years. Having fewer exchanges may make genetic management easier.

Goals for next 12 months

TBD

TAG Research Projects

Annie Newell-Fugate, D.V.M.,
M.Sc., Ph.D.
Assistant Professor
Department of Veterinary Physiology and Pharmacology
College of Veterinary Medicine and Biomedical Sciences
Texas A&M University

Retrospective characterization of reproductive tract lesions in relation to parity, age, and contraception in captive Suidae and Tayassuidae

Development of an electroejaculation and semen cryopreservation protocol for the endangered Chacoan peccary (Catagonus wagneri)

Wild Pig, Peccary and Hippo TAG Meeting

Tuesday March 28th

10:00am – 12:00pm

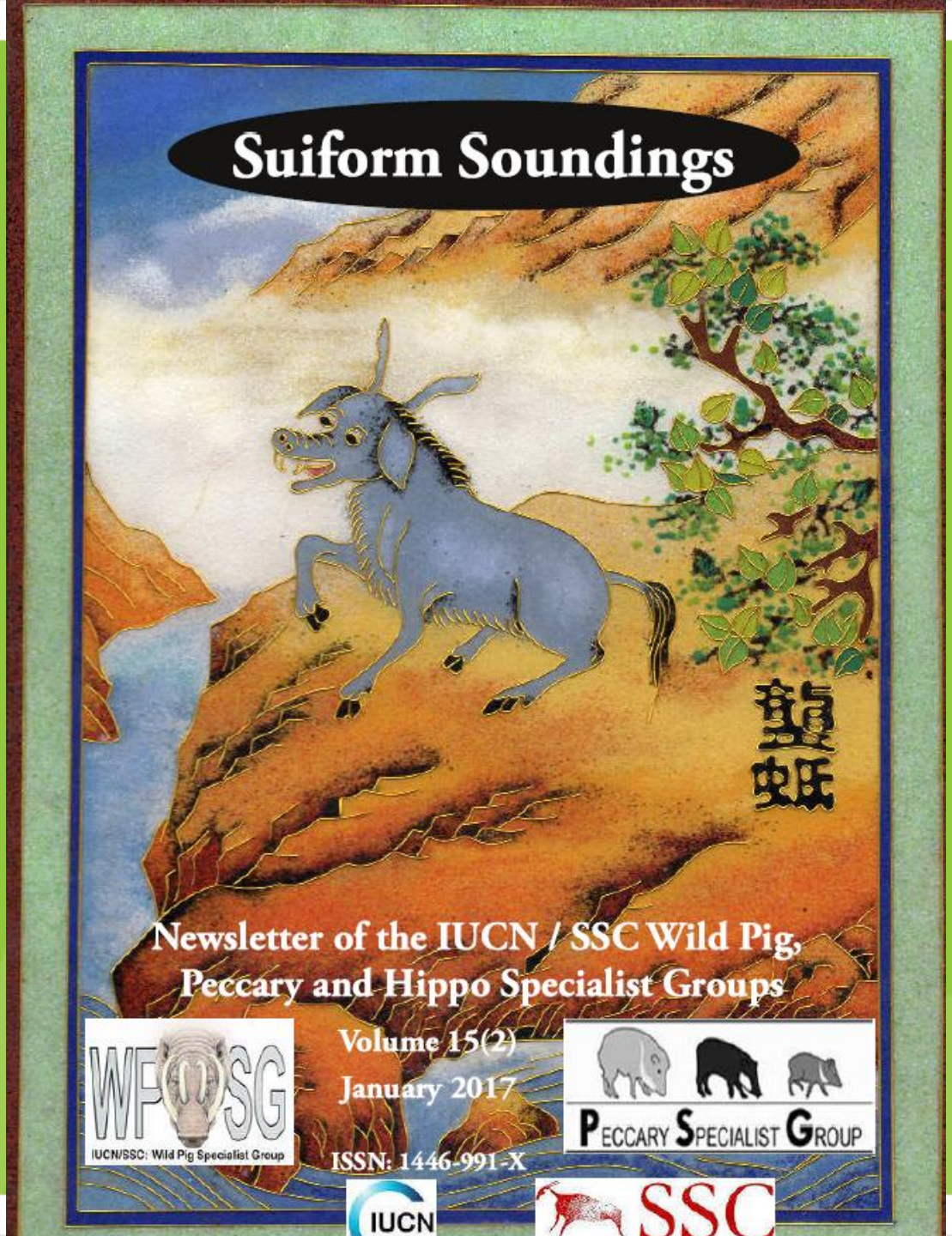
EAZA Update

TAPIR AND SUIFORM

TAG Chair: Bengt Holst (Copenhagen Zoo, Denmark)

TAG Vice-chair: Jochen Reiter (Duisburg Zoo, Germany)

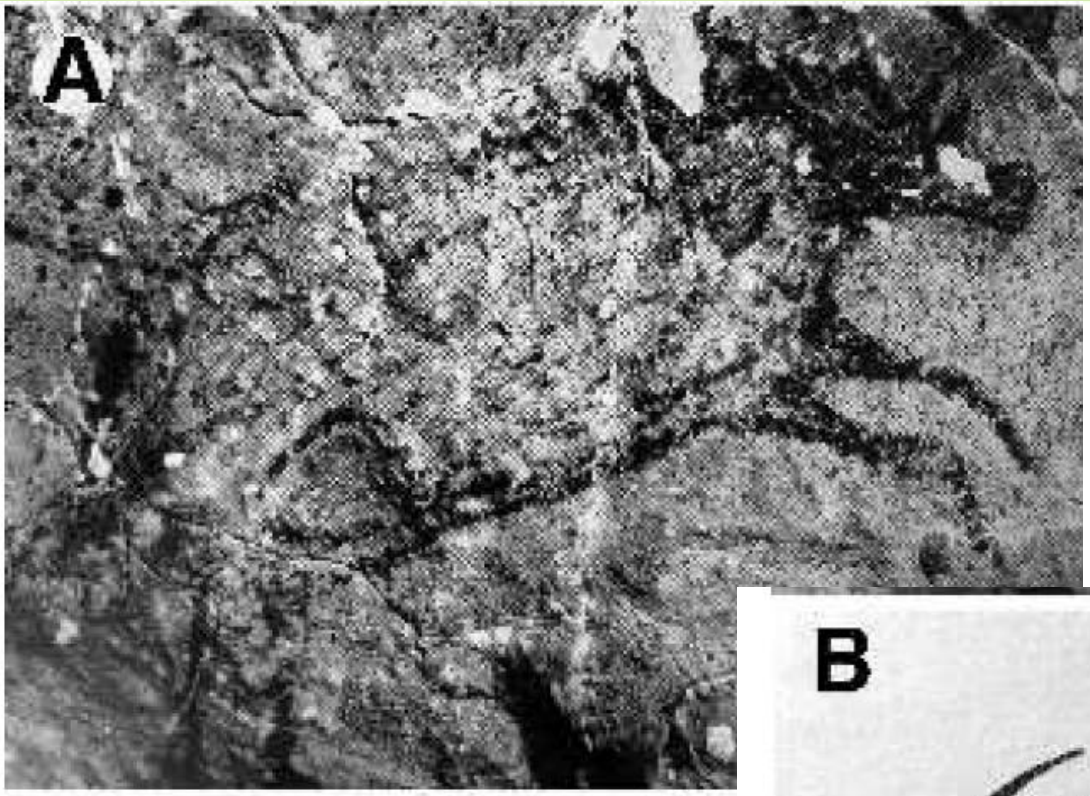
Update on Philippines Biodiversity Conservation Foundation



WOODLAND PARK ZOO

Table of Contents

The Horned Pig



Pleistocene Cave Paintings found in Sulawesi

Babirusa Birth

- http://www.dailymail.co.uk/femail/article-3937762/The-Secret-Life-Zoo-hidden-cameras-capture-incredibly-moving-birth-rare-babirusa-pig-believed-time-filmed.html