EAZA RSP workshop description and further information

Introduction

Since the mid-1980s cooperative breeding programmes in zoos and aquaria largely followed the "ARK paradigm". The default goal tended to be to build (mostly) closed, long term insurance populations that are demographically stable and large enough to maintain 90% of the gene diversity of the source population for 100-200 years (Soulé et al., 1986). Animals that are part of these programmes would predominantly be kept on exhibit in many different zoos and aquaria within a region. This paradigm, with one clear 'concept' to get behind, was revolutionary and appropriate at that time. Cooperative management among zoos and aquaria for the common good of populations was a relatively new concept that needed time to develop and has meanwhile engrained in culture within zoo and aquarium associations. EAZA and several other regional zoo and aquarium organisations were at the time still in their infancy but now have well developed organisational frameworks for large scale *ex situ* programme management. A few relatively younger zoo and aquarium associations are now in the midst of developing and further professionalising such frameworks. The ARK paradigm was a big stimulant for the development of the scientific principles, methods and tools for the management of small *ex situ* populations and these are currently well spread throughout the zoo, conservation and scientific community (Leus et al., 2011). Through the course of the era of the ARK paradigm, zoos and aquaria were not only able to cope with the consequences of legislation governing the importation of wild origin individuals and the growing societal awareness of the need for species conservation and individual animal welfare, but became advocates for these in their own right.

In more recent times, a number of internal and external developments and changes have taken place that are causing a paradigm shift (Baker et al.,2011; CBSG, 2011; Barongi et al., 2015; Traylor-Holzer et al., in press):

- The world is continuing to experience rapid losses of species and populations and many of the extant populations are undergoing significant declines and are becoming increasingly small and fragmented. A growing number of species can thus be expected to require intensive management of individuals and populations alongside other conservation actions to ensure their long-term persistence. Some of this intensive management may include *ex situ* management. Currently, conservation planning processes for *in situ* and *ex situ* populations often run largely in parallel (Redford et al. 2012, 2014); *in situ* stakeholders come together to develop conservation strategies/action plans to ensure viable *in situ* populations; and *ex situ* stakeholders do the same to ensure viable *ex situ* populations. This parallel approach may result in both communities missing out on the opportunity to make use of each other's wide range of expertise and experience; *in situ* plans potentially paying insufficient attention to the potential need for intensive population management (*in situ* and/or *ex situ*) and *ex situ* plans not having the best design to make the strongest conservation contribution.
  To help facilitate a more integrated approach to conservation, the Conservation Planning Specialist Group (CPSG) of the Species Survival Commission (SSC) of the International Union for Conservation of Nature (IUCN) has coined and is promoting the "One Plan Approach" (OPA) to species conservation planning: "*the joint development of management strategies and conservation actions for all populations of a species by all responsible parties to produce a single, comprehensive conservation plan for a species*" (Byers et al., 2013). Simultaneously, IUCN SSC published its "Guidelines on the Use of *Ex situ* Management for Species Conservation", designed to help conservationists evaluate if, when and how *ex situ* management would be a valuable component of the overall conservation strategy for a particular taxon.

- Regional evaluations of the progress of programmes against the ARK paradigm's default genetic and demographic goals showed that many did not reach these (self)sustainability criteria (Lees and Wilcken, 2009; Leus et al., 2011; Long et al., 2011) and led to the realisation that an priory assignment of the same role, goals and form to each programme was perhaps no longer the most appropriate way forward (e.g. Baker et al., 2011; de Man et al., 2016). Simultaneously a growing number of programmes indicated that they felt limited by the fact that programmes had to be assigned to just one of two management categories (EEP or ESB), the characteristics of either sometimes being inappropriate to the programme they ideally wanted to build. Over time differences between these categories had become somewhat arbitrary and they were not always applied consistently across TAGs. Furthermore, the growing diversity in the types of taxa managed in *ex situ* programmes highlighted the limitations of the traditional pedigree based analytical tools for some of these, in combination with the growing importance of molecular genetic techniques, assisted reproductive technologies, biobanks etc.

EAZA population management structure

To appropriately reflect the current breadth of population management activities, the needs of EAZA members and the changes and opportunities within the conservation world at large, EAZA approved a new population management structure in April 2017, following a thorough and holistic evaluation of EAZA's former population management structures.

Outline of the new EAZA *ex situ* programme structure

The new EAZA *ex situ* programme is built around three main pillars:

1. **Regional Species Plan (RSP):** In the spirit of the One Plan Approach and through the application of the 5-STEP decision making process in the IUCN Guidelines on the Use of *Ex situ* Management for Species Conservation, TAGs will decide which species are recommended to be managed under an EAZA *Ex situ* Programme (EEP) and what the precise direct, and/or indirect, and/or non-conservation roles of each EEP will be. EEPs are defined as population management activities that are endorsed by EAZA for species that are managed by EAZA members aiming towards (maintaining) healthy populations of healthy animals within EAZA or beyond. For species that are not considered for active management, the TAG will monitor the population trend. Each RSP will be submitted to and approved by the EAZA EEP committee.
2. **Application for an EAZA *Ex situ* Programme (EEP):** For each new EEP that is recommended in an RSP (and during the transition phase for each already existing EEP that the first RSP "new style" recommends to be continued) an EEP application template will be completed. This template contains a series of questions concerning the envisaged participants, governance and general biological characteristics of the EEP that guide the TAG to make conscious decisions, rather than automatic assumptions, about the form and functioning of the EEP. The TAG can suggest tailor made options where the default is not in the best interest of the programme. Each application will be submitted to and approved by the EAZA EEP committee.
3. **Long Term Management Plan (LTMP):** As part of the RSP, every existing EEP should have a management plan. For prioritised EEPs, a separate document may also be developed; the Long-term Management Plan (LTMP). This is a more elaborate planning process facilitated by the EAZA Population Management Centre (PMC). LTMPs are approved by the EEP's Species Committee (when present). Priorities depend on importance for conservation or the EAZA community in general, and the value that the LTMP process can add for these programmes.

One Plan Approach

A 'One Plan' approach (OPA) to species conservation promotes the joint development of management strategies and conservation actions for all populations of a species by all responsible parties to produce one comprehensive conservation plan for the species, with the ultimate goal of supporting the species' conservation in the wild (Byers *et al.* 2013).

In the spirit of the One Plan Approach and through the application of the 5-STEP decision making process in the IUCN Guidelines on the Use of *Ex situ* Management for Species Conservation, EAZA TAGs will decide which species are recommended to be managed under an EAZA *Ex situ* Programme (EEP) and what the precise direct, and/or indirect, and/or non-conservation roles of each EEP will be. EEPs are defined as population management activities that are endorsed by EAZA for species that are managed by EAZA members aiming towards (maintaining) healthy populations of healthy animals within EAZA or beyond. For species that are not considered for active management, the TAG will monitor the population trend.

IUCN SSC Guidelines on the use of *Ex Situ* Management for Species Conservation

Five step decision making process to decide when *ex situ* management is an appropriate conservation tool within the overall conservation strategy for a taxon:

Step 1.	Compile a status review of the species, including a threat analysis (PRE-WORKSHOP, Species Assessment Sheets created)
Step 2.	Define the role(s) that *ex situ* management will play in the overall conservation of the species.
Step 3.	Determine the characteristics and dimensions of the *ex situ* population needed to fulfil the identified conservation role(s).
Step 4.	Define the resources and expertise needed for the *ex situ* management programme to meet its role(s) and appraise the feasibility and risks.
Step 5.	Make a decision that is informed (i.e., uses the information gathered above) and transparent (i.e., demonstrates how and why the decision was taken).

Investigating Potential Conservation Roles

Direct Conservation Roles

For a direct conservation role to apply, the individuals in the *ex situ* population must play a conservation role for the species. One *ex situ* programme may serve several conservation roles – either simultaneously or consecutively.

1. Is there an existing conservation strategy/action plan for this species that calls for some form of *ex situ* management in support of conservation?
2. Do you feel (and/or does an existing strategy/plan state) that *ex situ* management with one or more direct conservation roles would be required for this species – and if so, which roles?

If yes, do you feel that the zoo community should help with:

a. Implementing an *ex situ* programme located elsewhere than on zoo grounds (e.g., in a range country facility or another non-zoo environment)

And/or:

b. Implementing an *ex situ* programme in professionally managed zoos (this can range from one, to a few zoos, to a large cooperative programme regionally or globally)

Indirect Conservation Roles

Indirect conservation roles can apply for a species regardless of whether or not an *ex situ* population is held. The zoo community can contribute to *in situ* conservation, however there is no specific role for the individuals in the *ex situ* population in species conservation. This contribution can include expertise, knowledge, materials, staff, fundraising, and more. Please note that a species may be eligible for indirect conservation support from the zoo community even if it is not currently held by zoos.

Some questions to guide the

a. Do you see a specific need for expertise, knowledge, materials, staff or other in-kind support from the zoo community to help implement a particular *in situ* conservation action, or address a particular *in situ* problem?

b. Is there a high priority *in situ* project for which small-scale funding from the zoo community could make a lot of difference for the conservation of the species (that might perhaps have difficulty attracting funds from other sources?)?

c. Are there particular messages that you feel would be good for zoos to include in general conservation educational activities for the zoo visitors?

Non-conservation Roles

Non-conservation roles do not specifically contribute to the conservation of the species. These roles may provide relevant value to the managed EEP population, or to the wider zoo community in other ways that are not related to conservation outcomes.

Support Activities

Support activities are opportunities to which the EEP is expected (by the TAG) to react opportunistically; they are not the main focus of an EEP. They are more likely to be passive and require relatively little time commitment. Unlike the conservation roles, they are not necessarily specific and/or measurable.

The same role can be a direct conservation role for one EEP and an indirect conservation role or even a support activity for another EEP, depending on the specific characteristics identified for that role.

Direct Conservation Roles: Definitions of Common Examples

Descriptions of these roles are based on a combination of the role descriptions in the IUCN SSC Guidelines on the Use of ex situ Management for Species Conservation and the Amphibian Ark Conservation Needs Assessment Process.

Ark
Maintenance of a long-term *ex situ* population after extinction of all known wild populations and as a preparation for reintroduction or assisted colonisation if and when feasible.

Insurance population
Maintaining a long-term viable *ex situ* population of the species to prevent predicted local, regional or global species extinction and preserve options for future conservation strategies. These are typically species that are threatened and for which it is unsure whether *in situ* threat mitigation will have the sufficient effect in a sufficient timeframe to prevent the extinction of the species or to prevent a dramatic decline in the numbers, populations and/or genetic diversity of the species. An *ex situ* population may be desired as an insurance population from which individuals can be extracted for genetic and/or demographic supplementation or other conservation translocations as required, but these are not yet actively planned in the foreseeable future.

***Ex situ* research and/or training**
Ex situ populations that are used for research and/or training that will directly benefit conservation of the species, or a similar species, in the wild (e.g., monitoring methods, life history information, nutritional requirements, disease transmission/ treatment). The research/training addresses specific questions essential for success of the overall conservation strategy for the species. This can include non-threatened species serving as a model for more threatened species or establishing *ex situ* populations of a threatened species to gain important species-specific husbandry and breeding expertise that is likely to be needed in the future to conserve the species.

Rescue (temporary or long term)
A species that is in imminent danger of extinction (locally or globally) and requires *ex situ* management, as part of an integrated programme, to ensure its survival. The species may be in imminent danger because the threats cannot/will not be reversed in time to prevent likely species extinction, or the threats have no current remedy. The rescue may need to be long-term or temporary (e.g., to protect from catastrophes or predicted imminent threats that are limited in time, like extreme weather, disease, oil spill).

Conservation Education
The *ex situ* management forms the basis for an education and awareness programme that addresses specific threats or constraints to the conservation of the species or its habitat. The education addresses specific human behavioural changes that are essential for the success, and an integral part of, the overall conservation strategy for the species. This primarily involves *ex situ* locations visited by the intended human audience.

Other Roles & Activities: Definitions of Common Examples

Advocacy
Use of institutional influence, communication platforms, and partnerships to promote policies, values, and actions that support biodiversity conservation and environmental sustainability.

Education
Engagement of visitors and communities through interpretation, exhibits, and experiences that enhance understanding of biodiversity, ecological processes, and human impacts on the natural world, fostering a conservation ethic.

Conservation Education
Delivery of targeted education and awareness programmes that promote behavioural changes essential for biodiversity protection, often addressing specific threats or conservation challenges.

Research
Application of institutional expertise and facilities to conduct or support scientific studies that advance understanding of animal biology, welfare, ecology, management etc., contributing to improved conservation knowledge and practice.

Fundraising
Generating financial resources through visitor engagement, campaigns, partnerships, or events to support conservation projects, organisations, and initiatives in the field.

Capacity Building
Development of knowledge, technical skills, and institutional capability within and beyond the zoo community to strengthen the effectiveness of conservation action.

Ambassador
Use of a species to engage and inspire the public, serving as a symbol for broader conservation messages and fostering empathy and support for wildlife and habitats.

Model Species (for a specific purpose)
Use of a species to develop or refine husbandry, behavioural, welfare, or research methodologies that can inform the management or conservation of other taxa, for example a closely related species which is more threatened than the chosen model species.

Training (e.g., Husbandry Training)
Provision of practical learning opportunities in animal care, handling, breeding, or welfare which helps to enhance professional competencies relevant to conservation management.

Determining characteristics and resources of the *ex situ* population needed to fulfil the identified role(s)

1. **General characteristics**
- Does the programme likely need to be long, medium or short-term?
- Is a release phase already planned for the foreseeable future?
- Is proximity to the natural habitat crucial or beneficial?
- Do the *ex situ* activities involve whole living organisms and/or live bio-samples?
- What level of human proximity or interaction is desirable?

2. **Founders and population size**
- Is the founder base of the current *ex situ* population likely already sufficient or are more founders required?
- Can additional founders or unrelated individuals be (legally and logistically) obtained? From wild? Other zoo regions? Other *ex situ* collections?
- Can the population be kept at, or grown to, the required population size?

3. **Genetic and demographic management**
- Is the taxonomy clear *in situ* and *ex situ*? What is the taxonomic scope of the *ex situ* programme?
- Will reproduction be required in the *ex situ* programme?
- Is retention of a high proportion of gene diversity of high, medium or low importance?
- Is control over the population size/growth and age/sex structure of high, medium or low importance?
- Is the species best managed at an individual or group level?
- Will breeding and transfer recommendations be necessary? If yes, how important is it that these are mandatory?
- How likely are ownership and access issues expected to impede success of the programme?

4. **Location and scale**
- What are the geographic location and scale? Is there range country involvement?
- Do (some) non-zoo association members or non-zoo institutions play a role? If yes, what level of commitment is required from them?
- If work is required across regions, is there a need for a formal framework for this or is more informal collaboration sufficient?

5. **Catastrophes**
- Are there any biosecurity needs?
- Are there specific requirements to reduce impact of other potential catastrophes?

6. Is **research** or **training** setup/equipment needed?

7. Are particular **welfare** issues to be addressed?

Feasibility: High / Medium / Low
(existing ex situ population, husbandry challenges, technical or logistical challenges, availability of skilled staff, availability of sufficient financial and other resources, …)

Risks: High / Medium / Low
(sensitivity to catastrophes, consequences for wild population, occupying ex situ space for other species that need it more, human health and safety risks, political risks, risks for social or public conflicts, …)

Selecting from the potential *ex situ* roles identified

Some guidance in reaching a consensus on whether to action *ex situ* activities with the potential identified roles:

For conservation roles: Consider the potential conservation benefit- also taking into account any potential alternative conservation actions - compared with the likelihood of success, costs, and risks.

Is there a conservation role(s) for *ex situ* management of this taxon within EAZA?

For non-conservation roles: Consider the relative importance of the species to the zoo community- unrelated to conservation- compared with the likelihood of success, costs and risks (such as the cost of occupying enclosure space for the species or related taxa).

Is there a non-conservation role(s) for *ex situ* management of this taxon within EAZA?

➔ **Consensus on final role(s) for EEP (if any)**

➔

Selecting the RSP Category for a Taxon

CATEGORY	DESCRIPTION
EEP	EAZA *Ex situ* Programme. The taxon needs proactive management by EAZA to fulfil its specified *ex situ* roles. The proactive management may not necessarily include managing a population in the EAZA region (e.g. can involve activities by EAZA staff to help manage an *ex situ* population/programme in a range state). EAZA can be the lead partner in the *ex situ* programme or can be a participating partner in a collaboration lead by others (e.g. range state governments, NGOs, other zoo association, etc.). This includes programmes that require proactive management to phase out the taxon or replace it with one or more other taxa; it is therefore also possible to create EEP REPLw, EEP Phase out, and EEP DNOs where relevant.
MON-T REPLw	The TAG will monitor the replacement of this taxon with one or more other taxa (specify which).
MON-T Phase out	The TAG will monitor the recommended disappearance of this taxon from EAZA collections.
MON-T DNO	The taxon is currently not present in EAZA collections and is not recommended to be obtained in EAZA collections. Its presence/absence will be monitored by the TAG.
MON-T	The taxon is present in EAZA collections and while there is no specific role for the taxon (with associated management), there is also no active recommendation to replace or phase out the taxon. The TAG will monitor the numbers of this taxon in EAZA collections.

For each taxon, please select one of the following categories:

Feasability

A specific general point on the agenda of the RSP workshop is feasibility. The feasibility of Regional Species Planning decisions has been discussed at some length by the EEP Committee as part of the evaluation process. As acknowledged in the PMM: *"…it is important [for TAGs] to find a balance between the need of the species, conservation and the EAZA Members on the one hand, and what is realistically feasible in terms of capacity (space, funding, staff) on the other hand"*. It is acknowledged that in the 2nd cycle there will be more information at hand during the RSP workshop, given that progress towards roles and goals through the status of the implementation of the LTMP will provide data on this point. The TAG is responsible for this assessment, whereas the EEP Committee has a responsibility to review and agree/disagree with the assessment and consequent RSP decisions when the document is tabled for approval by the committee.

Summary of the 2nd cycle RSP

General Evaluation

The workshop discussions are planned to address the following key questions:

- Which species should continue to be managed under an EEP?
- What should their respective roles be (including potential changes, updates in scope, or downgrades)?
- Which roles represent active conservation efforts versus support or passive activities?
- Which species should have alternative recommendations (e.g. DNO, MON-T)?
- What actions should the TAG undertake to facilitate further progress and implementation?

Correcting direct and indirect roles

Based on the review of the 1st cycle of Regional Species Plans, several improvements have been identified to enhance the way roles are documented.

- This process begins with correcting minor inconsistencies, such as the application of the definitions for direct and indirect roles.
- Some roles may also be reclassified under a new category called "Support Activities." Roles are intended to be proactively implemented, yet certain roles assigned in the first RSP cycle appeared more opportunistic in nature. By distinguishing these as support activities, TAGs and EEPs can more clearly identify which tasks require proactive management.
- Prior to each RSP workshop, information highlighting the proposed corrections and reclassifications (e.g. shared via email, call, or briefing note such as 2025 Correcting Direct and Indirect Roles) will be communicated to participants. During the workshop, TAG members will review these suggestions and decide which roles should be adjusted or moved to the support activity category.

Overarching topics

In addition to the species-level evaluations and the review of programme roles, the workshop also aimed to address several broader themes relevant to the overall coordination and strategic direction of the TAG. These overarching topics provided a wider framework for discussion, ensuring that decisions taken at the species level align with EAZA's collective goals, available resources, and long-term conservation priorities.

- The development of approach to Conservation Education roles and planning within the TAG.
- The assessment of space competition among taxa, to ensure optimal allocation of institutional capacity and alignment with conservation priorities.

Feasibility Assessment

- A comprehensive feasibility review is to take place at the end of the workshop, considering all actions and EEPs collectively as a final reality check.
- This process aims to ensure that proposed programmes and goals remain achievable within the current institutional capacity and resource framework.
- TAG members are encouraged to critically evaluate the total number of active EEPs, reflecting the EEP Committee's request to consider the increasing number of programmes at the EAZA level, which continues to stretch available resources.

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