

VERSION 1

MAR 2021

# EAZA RMG

EAZA Reproductive Management Group



THE EAZA REPRODUCTIVE MANAGEMENT GROUP

ACTION PLAN 2021-2025

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Cover photo: The North of England Zoological Society (Chester Zoo), UK.

## THE EAZA RMG ACTION PLAN 2021-2025

### VISION

A holistic approach to reproductive management is incorporated into species population planning.

### MISSION

Our mission is to support the work carried out by EAZA and others by providing state of the art advice in reproductive management. We promote a holistic approach to individual and population reproductive management in species managed by humans. We do this by carrying out research, collecting evidence, providing advice, education, and training, and by facilitating assistance on enhancing and limiting reproduction. Our expertise lies in the use of reproductive biology, wildlife contraception, fertility assessments, infertility treatments, assisted reproductive technologies, endocrinology, cryopreservation, gamete banking, reproductive behaviour, and social management.

## FOREWORD FROM THE EAZA RMG CHAIR

Over the past 12 years we have been supporting and advising the zoo community and in 2020 we made our 1000th contraception recommendation – what an achievement!

During this time we have grown from our original objective of delivering evidence based contraception recommendations, to a much wider remit focused on supporting overall reproductive management - where we consider the interactions between reproduction, animal welfare, health, genetic diversity and husbandry limitations.



To support this growth we have extended our network to include not only wildlife contraception knowledge but also expertise in reproductive biology, fertility assessments, infertility treatments, assisted reproductive technologies, endocrinology, cryopreservation, gamete banking, reproductive behaviour, and social management.

Additionally, in 2019, to reflect this broader focus, we changed our name from European Association of Zoos and Aquaria Group on Zoo Animal Contraception (EGZAC) to the European Association of Zoos and Aquaria Reproductive Management Group (EAZA RMG).

As our previous action plan came to a close in 2020, the EAZA RMG began work developing new strategic actions to support the **EAZA Strategic Plan 2021-2025**. The group has identified five key areas of focus which include: Advise, Research and Investigate, Facilitate and Collaborate, Train, and Inform and Inspire. The following **EAZA RMG Action Plan 2021-2025** outlines these areas in more detail and how we aim to achieve these actions and the expected outcomes.

Thank you to all of the EAZA RMG group members for bringing this ambitious plan together – it has been a team effort I look forward to seeing the EAZA community benefit from its agreed actions.

A handwritten signature in black ink that reads 'Sue Walker'. The signature is written in a cursive, flowing style.

Dr. Sue Walker  
EAZA RMG Chair

## ABOUT THE EAZA RMG

Established in 2008, the European Association of Zoos and Aquaria (EAZA) Reproductive Management Group (RMG), previously the EAZA Group on Zoo Animal Contraception (EGZAC), is a working group under the European Association of Zoos and Aquaria's (EAZA's) Veterinary Committee. The EAZA RMG consists of *in* and *ex situ* researchers, veterinarians and animal managers with an interest in the reproductive management of wildlife. The work of the EAZA RMG compliments that of the Association of Zoos and Aquariums (AZA) Reproductive Management Center (RMC), with whom we share the Contraception Database.

Within EAZA, the RMG's role is to support the work carried out by EAZA Ex situ Programmes (EEPs), Taxon Advisory Groups (TAGs) and animal managers at Member institutions by providing specialist advice in reproductive management. This includes ensuring the safe and informed use of contraception in wildlife in human care based on sound scientific data. The RMG's goal is to promote a holistic approach to individual and population reproductive management in *ex situ* conservation. The working group identifies gaps in the current knowledge on the effects of reproductive decisions (breeding/non-breeding, contraception), and advocates for the collection of data to inform current practices.

To achieve these goals, the EAZA RMG developed five strategic areas (SAs) for 2021-2025. These are outlined below:

### STRATEGIC AREAS

- SA 1. Advise
- SA 2. Research and investigate
- SA 3. Facilitate and collaborate
- SA 4. Train
- SA 5. Inform and inspire

Specific actions to meet these strategic areas can be found in [Appendix 1](#).

## SA1: ADVISE

Since its inception, the EAZA RMG has provided contraceptive guidelines to interested parties, in and out of the EAZA community. We have grown from delivering 7-15 guidelines per year, to delivering over 150 per year in 2020. These guidelines range from species overviews for use in Best Practice Guidelines, to bespoke recommendations provided to animal caretakers at individual institutions. Given the expertise within the working group, in 2019, the remit of the RMG expanded to reproductive management, which both encompasses reproductive enhancement, in addition to the suppression of reproduction. While a majority of our activity involves supporting EAZA breeding programmes with reproductive management, our reach also extends to support wildlife managers with *in situ* population control.

A key role of the RMG is that we provide advice and support with reproductive management to the EAZA community; we must ensure that all Members are aware of the services we offer, that we actively engage with anyone who needs our support, and that we continue to provide an efficient service.

We also believe that reproductive management should be underpinned by evidence. Therefore, we encourage and support the systematic collection of high-quality data pertaining to reproductive events. Data should be specific to the species under study, centrally stored, and available to relevant stakeholders (e.g. programme coordinators, veterinary advisors, population biologists, etc.). Given the expertise of the RMG, we feel that we are excellently placed to develop, or to support the development of a repository of such data.

***To ensure that we provide the community with the most comprehensive advice, our objective is to:***

- Ensure that we are visible and easily contactable
- Ensure that stakeholders are able to access the information they need
- Expand the data we collect
- Ensure that high-quality data is collected
- Explore funding for a second coordinator once our activity has increased
- Support EAZA at all levels on policy concerning reproductive management

## SA2: RESEARCH AND INVESTIGATE

The RMG helps to identify reproductive challenges within the zoo community and provides solutions to empower decision making through knowledge and evidence. We aim to ensure that our research has impact, and that it is accessible to the public.

To help achieve the aim of SA2, we have also created an overview of our [research priorities](#), which is available on the Resources section of our website.

### ***To increase research into reproductive management, our objective is to:***

- Identify a list of relevant university partners and key collaborators.
- Strengthen links and collaborations with the EAZA Research Committee.
- Identify key research areas using the Contraception Database, the expertise within the working group, and discussions with the zoo community.
- Provide training for coordinators on the use of individual reproductive assessments
- Explore the use of Reproductive Viability Analysis on EAZA populations (Bauman et al., 2019).
- Support the EAZA Biobank Working Group with advancing gamete banking activities within EAZA
- Promote research into assisted reproductive technologies and novel diagnostic techniques
- Ensure that information is accessible

## SA3: FACILITATE AND COOPERATE

Since its inception, the EAZA RMG has maintained a strong partnership with the AZA RMC, formalised by a Memorandum of Understanding. Moreover, we benefit from having a diverse array of international members with a wide range of skills, who provide unique outlooks on the challenges we face. We strongly believe that by working together as a community, we will have the greatest impact on refining animal management practices. As a Working Group, we aim to promote inter-institutional research with partners both within, and external to the zoo community. We would like to ensure that we maintain existing partnerships and develop new research partnerships to help answer key questions driven by the needs of EAZA Members.

### ***To develop and maintain effective collaborations, our objective is to:***

- Facilitate and promote interdisciplinary and inter-institutional research
- Facilitate data collection
- Monitor, review, and renew our existing MoU with the AZA RMC

- Moreover, as the need for cryopreservation becomes more prominent within the *ex situ* conservation community, we will endeavour to use our expertise to support relevant stakeholders where possible

#### SA4: TRAIN

One of the roles of the EAZA RMG within the zoo community is to ensure that skills in reproductive management exist within our community. Within the next five years, we aim to see an increased understanding of assisted reproductive technologies, the safe use of contraception, and of diagnostic tools available to evaluate reproductive soundness within the community. To achieve this, we will provide training opportunities and workshops on breeding failure and reproductive management to the community.

***To ensure that community members have access to training opportunities, our objective is to:***

- Design tailor-made workshops around the appropriate use of contraception, infertility diagnoses, reproductive management, among other topics
- Develop webinars and online learning tools

#### SA5: INFORM AND INSPIRE

The EAZA RMG are a voice for reproductive management both within EAZA, and externally. We inspire others to include reproduction in their decision making and provide an opportunity to bring together reproductive biology expertise. Using our skills, we aim to promote and support population sustainability by providing up to date evidence to decision makers, to allow them to consider the impacts of animal management on reproduction and fertility.

***To inform and inspire the community, our objective is to:***

- Increase involvement with Animal Programmes (TAGs and EEPs), Committees, and Working Groups
- Promote a holistic approach and advocate for practical methods of reproductive management



## REFERENCES

Bauman, K., Sahrman, J., Franklin, A., Asa, C., Agnew, M., Traylor-Holzer, K., Powell, D., 2019. Reproductive Viability Analysis (RVA) as a new tool for ex situ population management. *Zoo Biol.* 38, 55–66. <https://doi.org/10.1002/zoo.21477>

## APPENDIX 1: RMG ACTION PLAN 2021-2025

<b>EAZA Focal Area 1: Leading in zoo and aquarium animal management and care by maintaining healthy populations and individuals with positive animal welfare</b>				
<b>Objective 1.1 : The EAZA RMG aims to provide the EAZA community with the most comprehensive advice</b>				
	<b>Sub-objective</b>	<b>RMG Strategic Area</b>	<b>Target date</b>	<b>Key Performance Indicator</b>
1.1.1	Ensure that EAZA RMG is visible and easily contactable by our stakeholders	Advise	2021-2022	We will update the RMG website with key words relating to fertility and reproduction.
			2022	We will explore opportunities for search engine optimization.
			2021-2025	We will make sure that we are present and have help desks at relevant conferences and meetings (for example the EAZA annual conference, EAZWV conferences, local veterinary communities, PASA meetings, Botstiber Institute conferences). Members of the RMG will ensure that other working group members are informed about upcoming conferences.
			2022	We will develop leaflets and PowerPoint presentation slides to promote our work at relevant meetings.
			2021-2025	We will continue to promote the RMG as a tool in relevant communications (for example the EAZA eNews, EAZWV newsletter, WAZA newsletter).
			2021-2025	We will develop links with relevant organisations, ensuring that we promote them (and vice versa) on our website.
1.1.2	Ensure that stakeholders are able to access the information they need	Advise	2021-2025	We will develop factsheets with frequently asked questions for our website and the EAZA SharePoint.
				We will compile and actively manage a comprehensive bibliography on reproductive management.
				We will make new guidelines publically available on our website.

1.1.3	Expand the data we collect	Advise	2021-2025	<p>We will explore the development of new databases to collect reproductive information.</p> <p>We will explore increasing the number of questions we ask on our website, sharing existing fields with the WG to decide appropriate new additions.</p>
1.1.4	Ensure that high-quality data is collected	Advise	2021-2025	<p>We will increase communications with relevant stakeholders to improve data collected around breeding attempts.</p> <p>We will explore connections to other existing databases.</p>
1.1.5	Improve the service that we provide	Advise	2021-2025	<p>Explore funding for a second coordinator once our activity has increased.</p>
<b>Objective 1.2: To ensure that community members have access to training opportunities</b>				
1.2.1	Design tailor-made workshops around the appropriate use of contraception, infertility diagnoses, reproductive management	Train	<p>2021-2022</p> <p>2021-2025</p> <p>2023/2024</p>	<p>We will survey the EAZA community to identify which skills are currently well represented and which skills we should aim to develop.</p> <p>We will hold workshops at relevant conferences as well as at different institutions within the EAZA community so that we can widen our reach and make sure that all stakeholders within the community are able to attend.</p> <p>We will collaborate with relevant partners, such as the EAZA Academy and the EAZWV to deliver these training opportunities.</p>
1.2.2	Develop webinars and online learning tools	Train	2021-2025	<p>We will aim to host annual webinars on data entry and the use of contraception.</p>
1.2.3	Provide training for coordinators on the use of individual reproductive assessments	Research	2021-2025	<p>Ensure that reproductive assessments for part of webinars and courses that we develop and deliver to the community.</p>
<b>Objective 1.3: To inform and inspire the community</b>				

1.3.1	Increase involvement with Animal Programmes (TAGs and EEPs), Committees, and Working Groups	Inform and Inspire	2021-2025	We will increase collaboration with TAG and EEP veterinary and reproductive advisors to identify population wants and needs.  We will encourage TAGs and EEPs to have reproductive advisors to support population management decisions.
1.3.2	Promote a holistic approach and advocate for practical methods of reproductive management:	Inform and Inspire	2021-2025	We will increase communications to debunk myths and to increase beliefs in evidence related to contraception (for example in the EAZA eNews, ZooQuaria, EAZWV newsletter etc.).  We will present our data at relevant conferences.
<b>EAZA Focal Area 2: Maximising the conservation impact and engagement of EAZA and our Members</b>				
<b>Objective: N/A to EAZA RMG</b>				
<b>EAZA Focal Area 3: Representing the EAZA community alongside appropriate stakeholders at the national, EU and international levels to influence policy and good practice</b>				
<b>Objective: To support EAZA at all levels to influence policy concerning reproductive management</b>				
3.1.1	Support EAZA at all levels on policy concerning reproductive management	Advise	2021-2025	We will provide input, when needed, on discussion documents concerning reproductive management.
<b>EAZA Focal Area 4: Facilitating, guiding and promoting the values and scientific work of Accredited zoos and aquariums both internally and externally</b>				
<b>Objective 4.1: To increase research into reproductive management</b>				
4.1.1	Identify a list of relevant university partners and key collaborators	Research and Investigate	2021-2025	Ensure list is updated annually and is available to working group members.
4.1.2	Strengthen links and collaborations with the EAZA Research Committee	Research and Investigate	2021-2022	Work with liaisons to identify opportunities for further collaboration with Research, Communications, TA, and EEP Committees.
4.1.3	Identify key research areas using the Contraception Database, the expertise within the working group, and discussions with the zoo community	Research and Investigate	2021-2025	Review priority research areas at the EAZA RMG annual meeting and develop projects to answer this.  Priority projects will be added to the EAZA RMG 'Research Priorities' document.
4.1.4	Explore the use of Reproductive Viability Analysis on EAZA populations (Bauman et al., 2019)	Research and Investigate	2021-2023	Identify candidate species for analysis.  Develop and deliver project.

4.1.5	Support the EAZA Biobank Working Group with advancing gamete banking activities within EAZA	Research and Investigate; Facilitate and Collaborate	2021-2025	<p>We will improve links to the EAZA Biobank Working Group and supporting their endeavours of developing a 'cryopreservation network' within EAZA.</p> <p>We will provide expertise on methods for cryopreservation, the use of cryopreserved materials, and by sharing available research.</p> <p>We will help identify partners for sample storage.</p> <p>We will help develop sample collection protocols for gamete and reproductive tissue storage.</p>
4.1.6	Promote research into assisted reproductive technologies and novel diagnostic techniques	Research and Investigate	2022  2022-2023	<p>In collaboration with the EAZA Veterinary Committee and the EAZWV, we will develop a survey to identify what is needed, what will be wanted, and what skills currently exist in the community.</p> <p>We will explore how we can promote this area of research with veterinarians working in this area.</p>
4.1.7	Ensure that information is accessible	Research and Investigate	2021-2025	<p>We aim to communicate new developments in relevant media.</p> <p>We aim to publish our research Open Access where possible.</p>
<b>Objective 4.2: To develop and maintain effective collaborations</b>				
4.2.1	Facilitate and promote interdisciplinary and inter-institutional research	Facilitate and Collaborate	2021-2025	<p>We will add information about relevant projects to guidelines.</p> <p>We will create a research area on our website.</p> <p>We will create a list of ongoing research projects that we support that will be available on our website.</p> <p>We will encourage contacts to send us their recent relevant publications. These will be added to the bibliography available online.</p> <p>We will improve links to the EAZA Research Committee.</p>

				We will create a list of individuals with reproductive and endocrine experience who could consult on projects within the community.
4.2.2	Facilitate data collection	Facilitate and Collaborate	2021-2025	We will support coordinators with the development of practical and effective data collection.  We will improve the functionality of our website, to improve the quality of data we receive.
4.2.3	Monitor, review, and renew our existing MoU with the AZA RMC.	Facilitate and Collaborate	2021-2025  2024	We will provide annual summaries of our progress on the activities outlines in the MoU.  We will renew our MoU with the AZA RMC.
<b>EAZA Focal Area 5: Managing our operations to reduce environmental impacts</b>				
<b><i>Objective: N/A to EAZA RMG</i></b>				

## APPENDIX 2: INDIVIDUALS AND INSTITUTIONS SUPPORTING THE EAZA RMG

### EAZA RMG WORKING GROUP MEMBERS

Chair: Sue Walker <sup>1</sup>  
Vice-chair: Yedra Feltrer <sup>2</sup>  
EAZA Executive Office Liaison: Veronica Cowl <sup>1,3</sup>  
Henk Bertschinger <sup>4</sup>  
Hester van Bolhuis <sup>5</sup>  
Sarah Forsyth <sup>6</sup>  
Tobias Knauf-Witzens <sup>7</sup>  
Katarina Jewgenow <sup>8</sup>  
Tai Strike <sup>9</sup>

### ADVISORS TO THE WORKING GROUP

Maria Teresa Abello <sup>2</sup>  
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Cheryl Asa <sup>10</sup>  
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Kristen Pullen <sup>11</sup>  
Maja Rütten <sup>19</sup>  
Franz Schwarzenberger <sup>28</sup>  
Mark Stidworthy <sup>20</sup>  
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### INSTITUTIONS SUPPORTING THE EAZA RMG

<sup>1</sup> Chester Zoo  
<sup>2</sup> Barcelona Zoo  
<sup>3</sup> EAZA  
<sup>4</sup> University of Pretoria  
<sup>5</sup> AAP Rescue Centre for Exotic Animals  
<sup>6</sup> Colchester Zoo  
<sup>7</sup> Wilhelma, The Zoological and Botanical Gardens, Stuttgart  
<sup>8</sup> IZW  
<sup>9</sup> Zoological Society of London  
<sup>10</sup> AZA RMC, Saint Louis Zoo  
<sup>11</sup> Paignton Zoo  
<sup>12</sup> University of Gießen  
<sup>13</sup> Science and Conservation Centre, Zoo Montana  
<sup>14</sup> University of Edinburgh  
<sup>15</sup> GEOLifes  
<sup>16</sup> AHVLA  
<sup>17</sup> University of Veterinary Medicine, Vienna  
<sup>18</sup> Stallion AI  
<sup>19</sup> PathoVet  
<sup>20</sup> International Zoo Veterinary Group  
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