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Appendix 3: Template for proposing a new EEP

TAGs can use this Template for proposing a new EEP to the EEP Committee. As per default these applications follow from the RCP publication process and the Species Assessment Sheet should be sent along with this template. In exceptional cases new EEPs may also be proposed in between RCP editions. A separate Species Assessment Sheet should be completed if an EEP is being applied for in between RCP editions. Note that not all sections below may be relevant to each programme. Also note that 'species' represents any taxonomic unit the TAG has chosen as the unit of management in an EEP.

EEP Proposal for

Common Species Name: Goodeids/splitfins

Scientific Species Name: Goodeidae

Prepared by

Name(s): Freshwater teleost TAG

Year: 2023

1. Contact information

Contact details of proposed EEP Coordinator

Name: Becky Goodwin

Institution: Chester Zoo

Email: b.goodwin@chesterzoo.org

2. Taxonomy information

Goodeidae currently has 39 extant species

3. Identified roles

Roles:

Insurance/Ark: There are 2 species extinct in the wild (*Skiffia francesae* and *Allotoca goslinei*). For this reason, these direct conservation roles contemplate

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the possibility to maintain long-term ex situ populations to preserve options for the future. The ex situ populations are a potential future source to build up (long-term) populations for reintroductions. In this case, the Goodeidae family contains many threatened species several of which have IUCN ex situ mandates. Based on the threat category several species are likely to be lost in the wild and in need of an insurance population. Given the high feasibility and benefit, the next logical step would be to formalise the insurance populations. Ark – Species which are extinct (or on the verge of extinction) in the wild (at a local, regional or global level) and which would become completely extinct without ex situ management.

Insurance – Species for which ex situ management aims to maintain a viable population of the species to prevent predicted local, regional or global extinction and hence preserves options for the future. The ex situ management will normally be as part of a recommended conservation action

Population restoration: This direct conservation would focus on re-establishing these species to part of their former range from which they have been extirpated. This role implies providing disease-free, behaviourally competent and genetically valuable individuals for release into the wild. Of course, this would imply to ensure that any reintroductions are done according to the IUCN Reintroduction Guidelines and to avoid any releases that may cause hybridisation in the wild. However, there is a low likelihood of EEP animals being used for reintroduction in the near future as degradation of spring habitats for irrigation as well as threats from pollution and invasive species are all long-term threats so there may be a long time until there is suitable habitat available.

Research: This direct conservation role would focus on taxonomic research on Meso American species. There would also be some research into husbandry practices particularly those associated with providing water parameters closely replicating those of natural habitats.

Actions:

Conservation (Action) – Species that encourages public understanding of conservation issues, solutions and people's individual roles in them, and where appropriate makes links to direct action required to achieve conservation benefit

Visitor Connection - Species which due to distinctive appearance, behaviour, natural history, biology etc., can be used to inspire the public and develop a connection and empathy to wildlife, species relationships, and the environment

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Programme decision statement

EEP. Proactive management and coordination along a clear strategy among all the holders will be required to deliver the EAZA contributions to the insurance role selected for *Goodeidae*. Therefore, the TAG recommends to actively manage it as EEP.

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4. Programme participants and governance

Non-EAZA holding institutional scope *Select one or more of the options below.*

- EAZA population/community is the dominating driver of the EEP and any non-EAZA Members will occasionally join and are not integral to the structure of the EEP.*
- In addition to EAZA, there are other structural/equal drivers of the EEP (hobbyist groups such as the Goodeid Working Group would be imperative to involve)*
- A larger initiative exists and the EAZA population is a small part of this (e.g., GSMP, ...). Please describe.*

Additional information:

Essential non-EAZA partners not holding animals

Several non-EAZA aquariums that are members of EUAC, (European Union of Aquarium Curators) which has a Memorandum of Understanding with EAZA, are likely to participate. Additionally some hobbyists and research institutions hold the species in this family and they contribute to the overall total population size and provide valuable knowledge and research that benefits the programme. They are therefore important to the aims of the EEP. Furthermore, few EAZA members hold the species in this family so there is insufficient participation from only EAZA zoos/aquariums to establish and maintain strong populations of the species represented in this EEP.

Members of the EEP core group (Species Committee + non-voting members)

The steering committee members of the TAG will form the core group (Brian Zimmerman, Bristol Zoo Gardens, Toni Weissenbacher, Vienna Zoo, Mike Köck, Haus des Meeres, Alex Cliffe, ZSL Whipsnade Zoo) with the addition of a representative from the Goodeid Working Group.

Collaboration with EAZA Working Groups and Committees

There is or will be collaboration with: Biobanking WG, EPMAG, Reintroduction & Translocations Group, and the EAZA Conservation Committee

5. Programme characteristics

- *If there is a recent/active Long-term Management Plan for this species, list the demographic, genetic and other goals determined (if they still apply post RCP workshop).*

There are some management plans that have been implemented by the Goodeid Working Group (GWG) for certain species and species from certain locations with this family. An integrated LTMP needs to be generated for the entire family. The Plan will focus on ensuring sufficient holders of each species exist and continued integration with in-situ conservation efforts.

- *What is the anticipated duration of the programme?*

The programme is based on maintaining insurance populations of the family, to safeguard against their continued rapid decline in the wild due to a number of factors. At this time the downward trends for populations in the wild haven't been reversed and therefore the duration of the programme is unknown. Holders are expected to commit to long-term participation.

- *What is the anticipated likelihood and time scale of the use of the EEP population for restoration in the wild (reintroduction, reinforcement, etc.)?*

There is a low likelihood of EEP animals being used for reintroduction in the future although this has happened historically, for example the recently reintroduced *Skiffia francesae* were stock bred from individuals originally brought from European collections. Degradation of spring habitats for irrigation as well as threats from pollution and invasive species are all long-term threats so for some locations reintroductions may be some time away. For other locations reintroductions or animals released for reinforcement may be looked at but these individuals are likely to be from *ex situ* populations already held within Mexico. The sites are planned to be assessed by researchers from Morelia University to ascertain those with the highest priority for restoration and reintroduction.

- *Are some or all the individuals within this EEP intended to be held in specialist ex situ centres in the species' native range? Specify.*

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Most members of this family will be held at the Fish Ark at the Laboratorio de Biología Acuática, University of Morelia in Mexico.

- *Is it expected to be necessary that the whole population, or a certain proportion thereof, will need to be held off exhibit in order to fulfil the roles of the programme? If yes, please explain. (this question does not refer to the temporary housing of individuals off exhibit for space reasons)*

Yes, these fish thrive in on-show exhibits but small numbers of certain species should be kept off-show in order to breed in a more controlled environment.

- *Does a part or the whole of the EEP population need to be held in bio-secure facilities? And/or are there known diseases that have an above average effect on fulfilling the roles of the EEP?*

No. There are issues with mycobacterium in some populations and the family *Goodeidae* is susceptible to this disease if kept in unsatisfactory conditions (overcrowded, incorrect water chemistry) or when they become aged. Due to the aquarium and its life support systems being easily isolated, they provide the necessary barrier management without the need for bio-secure facilities.

- *What is the expected estimated number of individuals and institutions required to fulfil the selected roles? (this question will be answered in detail during the LTMP session for the taxon, but if some indication of scale is clear already, this should be stated here)*

Based on most of these fish reproducing in small groups, 40 individuals of each species, kept across 3 institutions will be the target giving a total of 6000 individuals.

- *Is this EEP intended to include rearing of wild eggs/young (i.e. head-starting)?*

Not at this time.

- *Is this EEP intended to include ex situ breeding?*

Yes.

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- *Is there likely sufficient expertise for this, or a model, taxon to achieve the roles of the programme and provide conditions for good welfare? Please indicate if Best Practice Guidelines already exist and if yes, include publication date.*

The current holders have experience of keeping multiple species in this family and staff at Chester Zoo would commit to starting writing the Best Practise Guidelines for the *Goodeidae* genus by 2025.

- *Will (non-)breeding and transfer recommendations be issued? If yes, with what frequency? (naturally problems will need to be solved throughout the year, but with what frequency will recommendations be issued for the whole population at once)*

Yes. As the species in this family will be group managed, the frequency will be determined by the new guidelines being created for this type of management by the Group Management study group and the EAZA population biologists, in cooperation with the TAG.

- *Do you anticipate that the EEP population will be (largely) closed or will there be regular planned additions of individuals? In case of the latter, will this be for genetic and/or demographic reasons and what will be the source (other ex situ sources and/or from the wild)?*

It is anticipated that the EEP population will be largely closed. We don't have accurate census information for this family due to a number of holders not using ZIMS so small additions from the wild may be required for some species.

- *Do you expect genetic and demographic management in this EEP to be individual and/or group-based?*

Group-based.

- *Do you expect genetic management in this EEP to be based on pedigree analysis, group history analysis, and/or molecular genetics?*

Some group history analysis and perhaps molecular genetics on a periodic basis to determine the level of inbreeding.

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- *Do you anticipate, or proactively plan for, biobanking and/or assisted reproduction to be key components of this programme?*

Biobanking of specimens will be carried out.

- *Do you anticipate certain national or international legislation to form a particular hindrance (more than average) to achieving the roles of your EEP (e.g., CITES, BALAI, governmental ownership, etc.). If so, explain how.*

No, the species in this family are not listed under CITES legislation or other international transfer restrictions but European national legislation is in place in some countries (UK) to prevent the spread of contagious diseases associated with native fish species (this is largely watershed based).

- *Are there any other issues/plans related to in situ conservation support that you feel should be mentioned and are not evident from the role description of the EEP?*

No.

- *Is there a research component/aspect to the EEP that is expected to have important consequences for the design of the EEP programme (e.g. housing and husbandry of a significant proportion of the population, etc.)? If yes, explain.*

The water chemistry for this family is highly specialised especially for species found in endorheic bodies of water. The impact of keeping them in water which mimics the precise conditions would be useful to investigate further so it can inform the BPG document.

- *Do you anticipate there to be any sizeable political, social, or public conflicts of interest related to the EEP programme and how do you plan to deal with them?*

No.

- *Any important additional programme characteristics that you would like to mention?*

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This is a family-based EEP and is being used as a model for future freshwater teleost EEPs, as identified and set out in the recently produced Regional Collection Plan for this group.

6. References (if any)

Weissenbacher, A., Zimmerman, B., Aparici Plaza, D., Fienieg, E., Hausen, N. (eds.) 2020. Regional Collection Plan –EAZA Freshwater Teleost Taxon Advisory Group– Edition One. EAZA Executive Office: Amsterdam.