



EUROPEAN UNION OF AQUARIUM CURATORS REPORTING FORM FOR CONSERVATION PROJECTS FUNDED IN 2023

1 TITLE OF PROJECT

Conservation assessment of a threatened pupfish species flock from “Laguna de Chichancanab”, Mexico.

2 NAME OF APPLICANT Brian Zimmerman, Alex Cliffe

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DATE OF REPORT: 6th May 2025

PLEASE SEND YOUR REPORT TO

3 LOCATION OF PROJECT (REGION & COUNTRY)

State of Quintana Roo, Mexico

4 PROJECT START AND END DATES:

19th April 2025 – 27th April 2026

5 PROJECT CO-ORDINATOR, ADDRESS AND INSTITUTIONAL AFFILIATION

(IF DIFFERENT FROM APPLICANT)

As above

6 PROJECT TYPE

(TICK ANY COMPONENTS THAT APPLY)

- BIOLOGICAL/ECOLOGICAL RESEARCH
- VETERINARY/CONSERVATION MEDICINE
- ANIMAL WELFARE
- CAPTIVE BREEDING
- RE-INTRODUCTION/RE-STOCKING/TRANSLOCATION
- HUMAN-WILDLIFE CONFLICT

- EDUCATION/PUBLIC AWARENESS
- TRAINING/WORKSHOPS
- COMMUNITY-BASED/SOCIAL POLICY
- ECOTOURISM/SUSTAINABLE DEVELOPMENT
- SUSTAINABLE USE
- WARDENING/LAW ENFORCEMENT
- PROTECTED AREAS MANAGEMENT
- EX SITU PROJECT ONLY
- OTHER: _____

7 FOCAL SPECIES (COMMON AND SCIENTIFIC NAME)

This is a species flock consisting of: (*Cyprinodon beltrani*, *C. simus*, *C. labiosus*, *C. verecundus*, *C. esconditus*, *C. maya*, and *C. suavium*).

Blackfin pupfish, Boxer pupfish, Thicklip pupfish, Largefin pupfish, Hidden pupfish, Maya pupfish and “Kissing” pupfish

8 IUCN RED LIST STATUS (OR OTHER THREAT LISTING) OF FOCAL SPECIES

Cyprinodon beltrani, Vulnerable

C. simus, Near Threatened

C. labiosus, Vulnerable

C. verecundus, Vulnerable

C. esconditus, Vulnerable

C. maya, Vulnerable

C. suavium Vulnerable

CITES YES NO

APPENDIX

9 PROJECT BACKGROUND

Lake Chichancanab is located in the Yucatan Peninsula. One of its most outstanding features is a fish species flock composed of seven morphologically distinct species, thought to have diverged as recently as 8,000 years ago.

After the introduction of tilapia, all the species were considered threatened or extinct, but population assessments were made in the same portion of the lake, and questions remain on their status.

Due to the threats, Chichancanab was declared a Ramsar site in 2004, however no management plan was produced, nor actions implemented towards the protection of the threatened species.

Chichancanab has not benefited by state tourism development is still underdeveloped, it has the first place in poverty, and despite some support by Federal and State Agencies, it has not made an economic impact on the people, leading to discontent towards the conservation policies in the area, increasing the risk to the biodiversity of the lake.

This provides an opportunity for positive change, via participatory planning with the local community establishing a sustainable management strategy for Chichancanab, with the aim of benefiting the species, and the communities. An evaluation of the conservation status of each species and the identification of major threats must be carried out.

10 WAS THE OVERALL PROJECT PURPOSE FULFILLED?

Goal 1

Evaluate the conservation status of *Cyprinodon simus*, *C. beltrani*, *C. verecundus*, *C. maya*, *C. esconditus*, *C. labiosus* and *C. suavium*.

Yes. The fieldwork was the most comprehensive survey ever conducted, assessing the presence of all seven endemic pupfish species. The findings will help shape a revised assessment of their IUCN Red List status. Only one of the seven pupfish species (*C. beltrani*) was seen in small abundance with the possibility of a second unconfirmed species observed at one site (*C. labiosus*).

Goal 2

Carry out a situation analysis to identify threats, causes and opportunities.

Yes. The invasive species of fish Bacalar tetra, (*Astyanax bacalarensis*), Mayan cichlid (*Mayaheros urophthalmus*), Mosquitofish (*Gambusia sexradiata*), Tilapia (*Oreochromis mossambicus*)

11 WHAT OBJECTIVES WERE MET?

WHAT OBJECTIVES WERE NOT MET?

12 WHAT PROJECT ACTIVITIES WERE UNDERTAKEN?

13 WHAT OUTCOMES WERE ACHIEVED DURING THE COURSE OF THE PROJECT? IF THIS WAS AN EX SITU PROJECT ONLY, WHAT WERE THE BENEFITS TO THE SPECIES EX SITU AND IN SITU?

1. We are drafting a report following the field trip for the local community/commissioner which will include details of our findings and create a baseline for any future surveys. This report will be led by the project's Mexican partners and drafted in Spanish for the local community's benefit.
2. We created considerable media content in the form of photographs, videos, both underwater and aerial drone footage.
3. Observations were recorded of species (both native and alien invasives) as well as water quality and physical-chemical parameters taken for baseline data.

ARE ANY ONGOING?

Yes, we hope to carry on with the eDNA sampling option, when kits are released from Customs and with additional funding, conduct the DNA extraction and analysis in UK and Mexican labs.

DID ANY EXPECTED OUTCOMES FAIL?

Yes, we intended to use an underwater drone, and our project partner had one but the software update rendered the drone unusable and we were unable to conduct underwater drone surveys. Additionally, we were unable to get a boat with a motor and therefore access to a considerable number of locations was impossible due to a lack of roads and access points.

An additional frustration was that our eDNA kits were held up in Mexican Customs, two times and we are still awaiting their release (see above). Fortunately one of our partners had a few kits from previous work and we managed to use these (10) to get some sampling done.

14 DID LOCAL PEOPLE/COMMUNITIES PARTICIPATE IN THE PROJECT? IF SO, WHO WERE THEY, HOW MANY PARTICIPATED AND WILL CONTINUED CONTACT BE MADE?

The project team consisted of two EUAC members (Alex Cliffe, ZSL and Brian Zimmerman, BZS) and several highly distinguished Mexican collaborators: Topiltzin Contreras MacBeath, from the Centro de Investigaciones Biológicas, Universidad Autónoma del estado de Morelos, México. He is also Co-Chair IUCN/SSC Freshwater Conservation Committee and Regional Chair of the FFSG for Mesoamerica; Dr. Carlos A. Gracida J, Professor de tiempo complete, at the Tecnológico Nacional de México, Instituto Tecnológico Superior de Felipe Carrillo Puerto, Mexico; Dr. Juan Jacobo SCHMITTER-SOTO from the El Colegio de la Frontera Sur, Mexico. Also in attendance for the field trip were photographer: Humberto Bahena Basve and a student from the local university, Priscila, studying alternative tourism in the region.

IF THERE WAS COLLABORATION WITH ANOTHER EUAC MEMBER OR AQUARIUM PLEASE PROVIDE DETAILS ON THE COLLABORATION.

Two EUAC members were collaborating: Alex Cliffe/Brian Zimmerman

15 DID THE GOVERNMENT OF THE HOST COUNTRY RECEIVE INFORMATION ON THE PROJECT'S RESULTS?

This is pending. Our Mexican project partners will be presenting the findings to the local Commissioner, whom we met at the start of the project.

16 HOW DID THE RELATIONSHIP WITH OTHER NGOS WORK? WERE THERE ANY ISSUES?

The team worked excellently together, quickly assigning roles and communicating extremely well to get the work done in a short time. The collaboration also yielded some great knowledge exchanges and there is clearly an appetite for continued collaboration in the future.

17 TOTAL PROJECT BUDGET AND EXPENDITURE (IN EUROS)

17,211.55

18 AMOUNT OF MATCHING FUNDS SPENT: 10,600

19 AMOUNT SPENT FROM EUAC FUNDS: 6611.55*

20 EXPENDITURE BREAKDOWN (IN EUROS)

	EUAC funded	Matched
TRAVEL	2580.71 (includes airfares and transfers)	
SALARIES		5,200
ACCOMMODATION	1542.09	
EQUIPMENT	35.39 (Wi-Fi for drone)	5,000
COMMUNICATION		
MISCELLANEOUS	49.08 (tips, bank fees, park fees)	400 (eDNA kits provided by partne
MEALS/WATER/SUPPLIES	1229.36	
CAR HIRE & PETROL	335.45	
eDNA kits and shipping/customs	839.47	
TOTAL	6,611.55* *Remaining balance (672 euros) will be used for purchase of new kits and project partner's transport to site, collection of samples.	10,600

21 PUBLICATIONS PRODUCED AS A RESULT OF THE PROJECT
