

Budget Outline for establishment of *ex situ* colonies of threatened

Central Panamanian Amphibians

This document provides the outline of expenses necessary to establish and maintain *ex situ* colonies of five species of threatened Panamanian amphibian at the Summit Nature Park in Panama City.

- The Tabasara Rain Frog (*Craugastor tabasarae*) – IUCN Critically Endangered,
- Sapo Limosa (*Atelopus limosus*) – IUCN Endangered,
- The Streamside Rain Frog (*Craugastor punctariolus*) – IUCN Endangered,
- Rana Mususas (*Eleutherodactylus museosus*) – IUCN Endangered,
- No common name (*Craugastor melanostictus*) – IUCN Vulnerable.

All the taxa above are known to be susceptible to, and suffer mortality from, chytridiomycosis. All the taxa either (a) only occur in the area immediately east of the Panama Canal or (b) are likely to have been extirpated from all other localities and these represent, to the best of our knowledge, the only extant populations.



Tabasara Rain Frog (*Craugastor tabasarae*)



Sapo Limosa (*Atelopus limosus*)



Streamside Rain Frog (*Craugastor punctariolus*)



Rana Mususas (*Eleutherodactylus museosus*)



Black-lined Rain Frog (*Craugastor melanostictus*)

The budget breaks down into two categories;

- Set up expenses (one time and first year costs associated with the establishment of the colony),
- Maintenance expenses (continual annual expenses that span the life of the project).

Set up and First Year Budget	Each Species	Project Total
Item(s)		
<u>Retro-fitting Container</u>		
Mobile Storage.com Materials and Labor	\$21,500	\$107,500
Shelving units	\$3,000	\$15,000
Aquaria	\$2,000	\$10,000
Misting Systems, Plumbing and Filtration	\$4,000	\$20,000
Lighting	\$2,500	\$12,500
Freight US to Panama	\$2,500	\$12,500
Portable Generator (6 KW, electric-start)	\$500	\$2,500
Container foundation, electric and water	\$5,000	\$25,000
Staffing* (three keepers per five containers)	\$4,200	\$21,000
Invertebrate Cultures and supplies**	\$1,000	\$5,000
Specimen collection Trips	\$2,500	\$12,500
Chytrid testing, genotyping, veterinary care***	\$3,000	\$15,000
Total	\$51,700	\$258,500

* Staffing costs include “decimo”, social security and insurance.

** Costs include importation and permitting process.

*** Costs include exportation of samples.

Annual Maintenance Budget	Each Species	Project Total
Item(s)		
Staffing* (three keepers per five containers)	\$4,200	\$21,000
Invertebrate Cultures and supplies**	\$1,000	\$5,000
Husbandry equipment	\$2,000	\$10,000
Veterinary Care***	\$1,000	\$5,000
Total	\$8,200	\$41,000

* Staffing costs include “decimo”, social security and insurance.

** Costs include importation and permitting process.

*** Costs include exportation of bodies for necropsy.