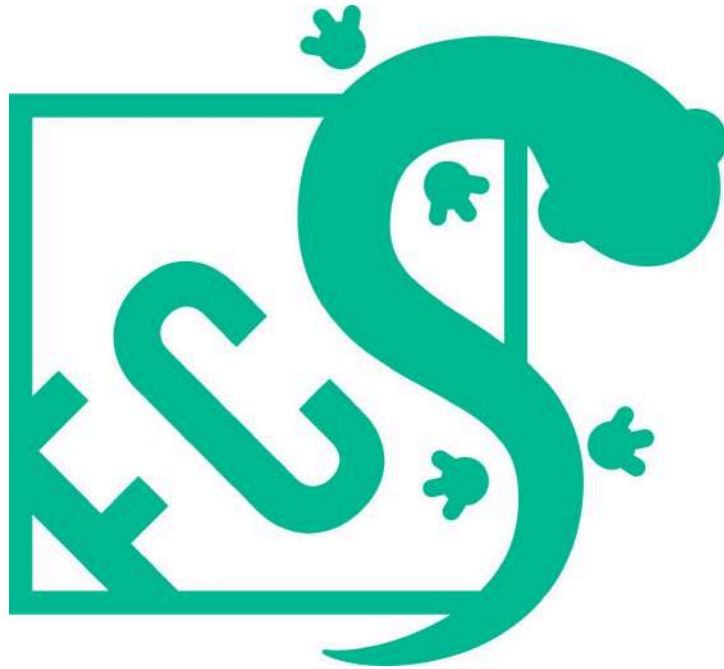


FCSal Funding Update



Grant Recipient

Diego A. Gómez-Hoyos, Fundación Soy Conservación
(diegogomez@soyconservacion.org)

Date Funding Awarded

01/03/2022

Date of Update

06/03/2024

Photos

Workshops



Fieldwork



Outreach and education



Species record





Project Title:	Searching the threatened and lost salamanders in a mesoamerican hotspot with a citizen science approach
Principal Investigator (PI) name: Job title: Institution: Address: Phone: Fax number: Email address:	Diego A. Gómez Hoyos Director Fundación Soy Conservación diegogomez@soyconservacion.org
Amount of Grant Award:	\$4763
Collaborator name: Job title: Institution: Address: Phone: Fax number: Email address:	Rocío Seisedos de Vergara Costa Rica Coordinator Fundación Soy Conservación rociosv@soyconservacion.org
Collaborator name: Job title: Institution: Address: Phone: Fax number: Email address:	Junior Porras La Amistad National Park Manager National System of Conservation Areas -SINAC junior.porras@sinac.go.cr
Collaborator name: Job title: Institution: Address: Phone: Fax number: Email address:	Marcel Esquivel Citizen scientist Independent

Project Description

Our project was based on the conceptual framework proposed and tested for La Amistad Biosphere Reserve by the PI of the current proposal (Gómez-Hoyos 2022). This was based on participatory methods that integrated citizen science and education to achieve locally stated conservation objectives. This approach had yielded important data on local biodiversity and conservation (Gómez-Hoyos et al. 2018a) of amphibians in particular (Gómez-Hoyos et al. 2018b), but salamanders needed particular attention to be strengthened because we had only isolated published reports of endangered salamanders (Camacho-Duran y Gómez-Hoyos 2020).

The citizen science component was developed with four local stakeholders: tourist guides, private farm guards, park rangers, and farmers. Local researchers were trained to search for salamanders to complement the records currently being made in the area for other vertebrates such as anurans, birds, and mammals. The training took place in the facilities of La Amistad International Park (PILA), Asociación de Productores de La Amistad (ASOPROLA), and Cantaros Farm and was developed in two theoretical and practical workshops on biology, natural history, and monitoring of wild populations with emphasis on salamanders (including protocol of biosecurity and traffic prevention), as well as identification of opportunities of salamanders for socioeconomic development (e.g. specialized tourism, souvenirs, social appropriation of knowledge, education) to identify possibilities of sustainability (principally non-monetary incentives) of participatory monitoring in the local context.

After the training, the routes taken by the citizen scientists during their activities (e.g. tourism, farm surveillance work, surveillance and monitoring in protected areas, and volunteer routes) were established. These routes (tracks) allowed establishing the survey area which were used to record presence/absence of salamanders and estimate naive occupancy. Records of salamanders, habitat characteristics, and threats were recorded with Open Data Kit form synchronized in the cloud to facilitate data management. The consolidation of the citizen science program for the study and conservation of salamanders was successful with the participation of 3 local stakeholders represented by 6 citizen scientists throughout the project.

The knowledge generated about threatened salamanders, their habitat, and threats was compiled in a workshop with environmental educators to design the module that would be integrated into the local educational program on threatened species

"Guardians of the water: threatened fauna and flora of the Coton Watershed". The module was tested in 3 local schools and children between 5 and 12 years old.

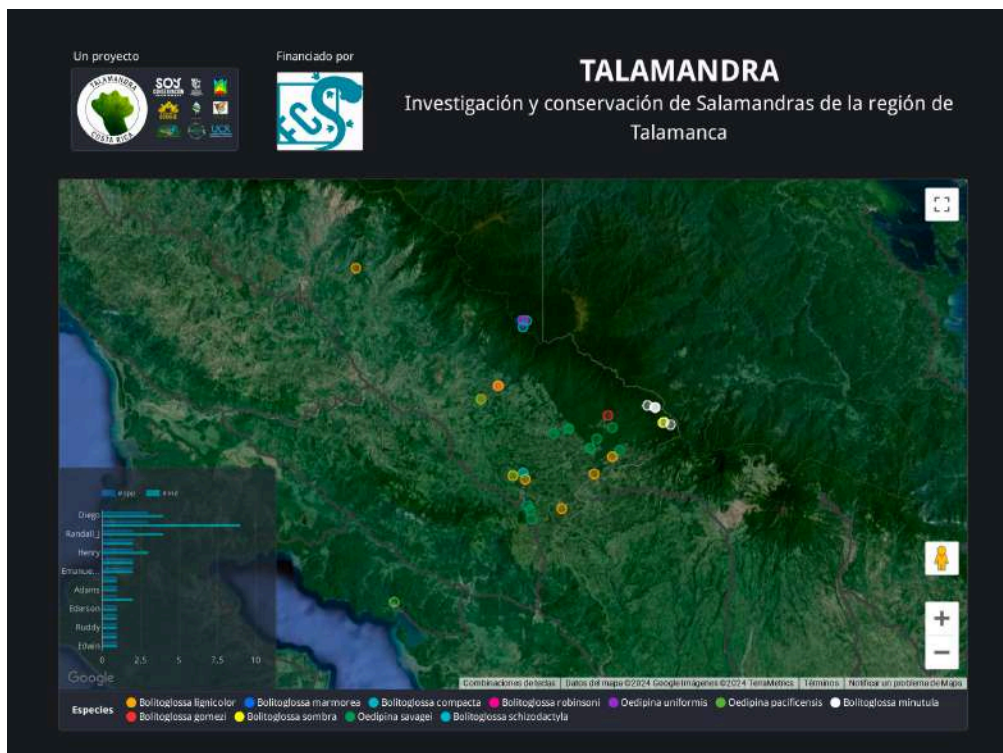
At the end of the project, all local stakeholders were brought together and a local conservation plan was developed. The plan was developed in two participatory workshops. During the workshops, we used social mapping, prioritization of opportunities and threats with democratic tools, and stakeholder mapping and engagement. The results were validated with the management plans of the protected areas to offer conservation recommendations to the protected areas.

Final report

Details and updates on our TALAMANDRA participatory research and salamander conservation project can be found on the website at this [link](#)

Current salamander records and distribution

Interactive map in the [link](#)



Outreach and education

A module on endangered salamanders was included in the Guardianes del Agua (Guardians of Water) educational programme ([interactive map](#)).

Guardianes del Agua: Fauna y Flora Amenazada del Río Cotón

Mapa interactivo del alcance del programa educativo de la Asada Gutiérrez Brawn en las comunidades beneficiarias del acueducto y aledañas a la cuenca del río Cotón.

Escuela	Modali...	Niños	Niñas	Alu...
1. Santa Const...	Presenc...	21	21	42
2. Fila de Trac...	Presenc...	16	15	31
3. Balto Vista	Presenc...	10	14	24
4. Alpha	Presenc...	12	10	22
5. Santa Elena	Presenc...	10	12	22
6. La Méndez	Virtual	9	12	21
7. El Roble	Presenc...	8	12	20
8. Fila Guinea	Presenc...	7	13	20
9. Roble Arriba	Presenc...	13	3	16
1. Agua Caliente	Virtual	10	6	16
1. Fila Tigre	Presenc...	11	4	15
1. Las Meilizas	Presenc...	12	3	15
1. Las Marías	Presenc...	9	5	14
1. Fila Naranja	Presenc...	4	8	12
1. La Libertad	Presenc...	8	4	12
1. La Palmera	Presenc...	8	4	12
1. Jaime Gutié...	Virtual	8	3	11
1. La Esmeralda	Presenc...	6	5	11
1. Kamukiri	Presenc...	7	4	11
2. Las Brisas	Virtual	4	3	7
2. Santa María...	Presenc...	2	3	5

Financiadores del proceso:

Coordinador: Diego A. Gómez Hoyos
Promotoras ambientales: Rosa Valverde, Fabiana Marín y Lilliana Chacón
Administración: Gilberth Villegas

Management recommendations

Participatory workshop





Amenazas
 Agroquímicos
 Especies invasoras
 Enfermedades emergentes
 Destrucción de hábitat
 Cambio climático
 Contaminación

- *B. Marmorea* (Peligro) Alteración del hábitat, Capacitar al guía - Desinfección. No manipular, manejo de aguas residuales, no ingreso de animales domésticos.
- *B. Gomez* (Peligro) Desinfección,
- *B. Compacta* (Peligro) (Igual que la *B. Marmorea*).
- *B. Sombra* (c. *Amundae*) Recomendaciones: no destrucción del hábitat, Población, manejo adecuado del turismo, desinfección. Manejo de desechos.
- *B. Robinson*
- *O. Sanguis* (Vulnerable) Agroquímicos - Alteración y pérdida del hábitat, Contaminación, enfermedades emergentes. Poblaciones - educación ambiental.

- *B. Lignicolor* (P. menor) (Igual que la *Savagei*).
- *B. Schizodactyla* (P. menor) (Igual que la *Savagei*).
- *O. Uniformis* (P. menor) (Igual que la *Savagei*).
- *O. Pacificensis*
- *B. Minutola* (Peligro) Pérdida del hábitat

ESPECIE	LUGARES	AMENAZA	RECOMENDACIONES
<i>Bolitoglossa marmorea</i> (EN)	Valle silencio	Contaminación	Drenajes de aguas
		Turismo, manipulación sp	Capacitar guías en cuándo se puede manipular, en lo que se puede y no hacer
		Enfermedades emergentes	Lavado de botas, desinfección. Punto en Asoprola o el pila poner estaciones desinfección (una o varias) ver viabilidad con Sinac.
		Cambio climático	
		Animales domésticos	
<i>Bolitoglossa gomez</i> (EN)	Cerro chai	Ingreso investigadores/estudiantes OET	Recomendar OET, LA y Sinac la desinfección de botas y equipo.
<i>Bolitoglossa compacta</i> (EN)	Valle del silencio	Igual a <i>B. marmorea</i>	
<i>Bolitoglossa sombra</i> (EN)	ZPLT	Entrada de gente, contaminación, uso de	No quitar troncos del potrero, no limpiar aunque sea zona perturbada porque es una

		leña (pérdida troncos como refugio). Es una zona perturbada pero	zona que utilizan y toleran las especies. Manejo del turismo: quizá organizar grupos de la comunidad que guíen o con la brigada local Rotulación. Manejo basura
<i>Bolitoglossa ronbinsoni</i> (DD)	Valle del Silencio	Igual a <i>B.marmorea</i>	Recomendación rotular para que los registros de los grupos que suben queden con el SINAC o en el ODK Capacitar a los guías/trabajadores en la app y que la persona sepa de Talamandra
<i>Oedipina savagei</i> (VU)	Fuera de áreas protegidas	Todas las amenazas	Educación, comunicación y concientización. Animales domésticos
<i>Bolitoglossa lignicolor</i> (LC)	Fuera de áreas protegidas	Todas las amenazas	Educación, comunicación y concientización. Animales domésticos
<i>Bolitoglossa schizodactyla</i> (LC)	Fuera de áreas protegidas	Todas las amenazas	Educación, comunicación y concientización. Animales domésticos
<i>Oedipina uniformis</i> (LC)	Fuera de áreas protegidas	Todas las amenazas	Adaptar recomendaciones a la zona y buscar los aliados o personas a las que habría que informar
<i>Oedipina pacificensis</i> (LC)	Fuera de áreas protegidas	Igual que <i>O.savagei</i>	Educación, comunicación y concientización. Animales domésticos
<i>Bolitoglossa minutula</i> (EN)		Entrada de gente, contaminación, uso de leña (pérdida troncos como refugio). Es una zona perturbada	