



Biannual Report 2019-2020

Dear friends of ASA,

What a couple of years these have been. It certainly bears no repeating that the global pandemic has presented us all with many challenges, and we hope that you have weathered all of its ups and downs as well as possible.

Although it has been a challenging time, in many ways, it has also been our most productive period yet. Not only have we kept our research, reforestation, and education projects going, but we have even been able to expand many of them. We've documented more than a thousand species at our main field site in Peru, for instance, planted thousands of trees, and delivered quality environmental education to children who need it now more than ever. That's all largely because of you, our committed community of rainforest champions. So many of you stepped up these past two years to keep our work going, and we are very grateful.

Just the other day we went to inspect our Native Food Forest at Finca Las Piedras, our first reforestation project that we began in 2017. Several years after initial planting the hard work is finally bearing fruit, literally—over 30 native species that are now providing food for us and for local wildlife, a productive forest that will be here for generations to come. We also made an unexpected discovery—nearly a dozen young Brazil nut trees! We didn't plant them, so how did they get there? The answer is agoutis. These small rodents are the only animal capable of opening the Brazil nut's hard outer shell. When they do, they stash some nuts for later by burying them and, inevitably, some of them are forgotten. Our local agoutis are clearly here and hard at work, unintentionally taking over the job of restoring the rainforest. Those young Brazil nut trees are a testament to how the rainforest can regenerate with just a little help and protection.

The Amazon is big and saving it will be a tall order. We're humbled by the task, but we are also lucky to have you on our side—together we can do this! Please read on to learn more about what we've achieved so far, and what we have planned next.

Sincerely,

Geoff Gallice President, ASA

Johana Reyes President, ASA Peru

About the Alliance for a Sustainable Amazon



The Alliance for a Sustainable Amazon (ASA) is a U.S.-based 501(c)3 non-profit organization that is active in the Peruvian Amazon. We work closely with our partner organization, Alianza para una Amazonia Sostenible Perú (ASA Peru), to implement projects that span research, reforestation, and education. The Amazon is the largest and most biodiverse rainforest on Earth, yet if faces serious challenges. Please read on to learn more about what we're doing to protect this great ecosystem, the plants and animals that call it home, and the communities that depend on it.

Our Mission

"To conserve biodiversity and other natural resources for the benefit of all those who depend on the Amazon rainforest"

Focal Areas of Our Work







Reforestation



Education

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Research

Basic research is the foundation for effective, science-based conservation in the Amazon. How many species occur here, and how many are threatened with extinction? How is climate change affecting the plants and animals that call the rainforest home? We're working hard and against the clock to answer these questions so that we may better protect biodiversity in southeastern Peru.

Our Research Projects

Lepidoptera Diversity and Biology



By the Numbers

Butterfly species recorded in SE Peru

685

New host plants discovered

75

Peru's Madre de Dios region is among the most biodiverse places on Earth, and also among its most poorly studied. We are working at Finca Las Piedras, our research and education center in the Peruvian Amazon, and throughout SE Peru to understand how many butterfly and moth species occur here and how they all fit in to the complex Amazonian food web, especially their host plants.

We focus on butterflies and moths—the order Lepidoptera—since they are diverse, ecologically important, and charismatic. Our long-term goal is to create a complete species list for the region and document their host plants. This is the first study of its kind in the Amazon and it is an important initial step in understanding and protecting the region's biodiversity as threats mount.

So far, we have documented nearly as many species in our region as occur in all of North America, with many more awaiting discovery. We have also documented dozens of species' host plants, all new records for science.

New Project in 2020 - Long-term Butterfly Monitoring



Global climate change is causing the Amazon—the world's largest and most biodiverse rainforest—to become hotter and drier, but we currently know almost nothing about the impacts of these changes on plant and animal populations.

We have installed twenty baited butterfly traps in the rainforest canopy and understory at Finca Las Piedras that we are monitoring monthly to better understand the impacts of climate change on butterflies here. This will be a long-term study, the first of its kind in the region.

Biological Inventories



Species registered at Finca Las Piedras to date

TOTAL	1,022
Plants	144
Mammals	31
Insects	445
Fishes	26
Birds	262
Spiders & other arachnids	18
Amphibians & reptiles	96

The Amazon is an incredibly diverse ecosystem in which thousands of species of plants and animals interact in complex food webs and protecting all of these species is critical to maintaining a healthy ecological balance. In addition to Lepidoptera, we are working to document other key groups of organisms at Finca Las Piedras.

Our focal groups span amphibians and reptiles to birds, mammals, fishes, plants, and, of course, insects and other arthropods. We survey these organisms using a variety of methods and a large number of people have contributed to the effort.

Although every species has an important role to play in the rainforest—even down to the tiniest fungus or insect—we have made some particularly exciting discoveries, including several larger animals that have an outsized impact on maintaining the forest's delicate balance. Some of these species are rare or even extinct elsewhere throughout the region, meaning that our efforts are working to protect the rainforest. Our camera traps, for example, have captured big cats like jaguar and puma, whereas in the sky we have observed crested eagles, one of the Amazon's top aerial predators. We're thrilled with the Finca Las Piedras species list so far, and excited about what remains to be discovered!

Field Guides

Field identification guides are one tangible product of our biological inventories and are an important resource for students, educators, and researchers in southeastern Peru. The guides are produced by ASA and made freely available online through a variety of platforms. To date we have published a total of **6 guides** covering diverse groups of plants and animals, with more in the works.



Terra Firme Stream Fish of Finca Las Piedras

Joseph See, Geoff Gallice, & Quincy Knowlton



Fungi of Finca Las Piedras Monica Liedtke

& Geoff Gallice



Dung Beetles of Finca Las Piedras

Amanda Reyes, Geoff Gallice, & Gorky Valencia

Publishing our Research

Publishing the results of our research is key to making the information we generate available so that it can be used to better understand and protect the Amazon. It is also important to build capacity locally so that others can continue to do the same. We work closely with ASA staff members and trainees from all over Peru – early career biologists and the Amazon's future conservation leaders – to publish their work in peer-reviewed scientific journals and other outlets. In 2019-20 the ASA team published 15 research articles across various platforms, with many more currently in the works. Below are a few of our most recent accomplishments.



Our 2020 Lepidoptera team (from left): Rafael Tejeira, Thalia Hurtado, and Rodrigo Ccahuana. These university students from Lima and Cusco, Peru, each wrote at least one scientific article based on their research on Lepidoptera biology during their time with us at Finca Las Piedras, and three have so far been submitted for publication in peer-reviewed journals. This makes their discoveries public and also is a major boost to their budding careers as biologists.

A few notable publications from 2019-20



Immature stages of Magneuptychia harpyia

Shinichi Nakahara, Fjella Hoffman, Fabia Hoffman, & Geoff Gallice



Immature stages and new host record of Taygetis rufomarginata

Quin Baine, Gabriela Polo, Shinichi Nakahara, & Geoff Gallice (2019)



Neotropical Melyroidea group cockroaches reveal various degrees of (eu)sociality

Jan Hinkelman, Geoff Gallice, et al. (2020)



The threat of road expansion in the Peruvian Amazon

Geoff Gallice, Gustavo Larrea, & Ian Vázquez (2019)

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The changing nature of collaboration in tropical ecology and conservation

Tim Perez & Aaron Hogan (2019)

Reforestation

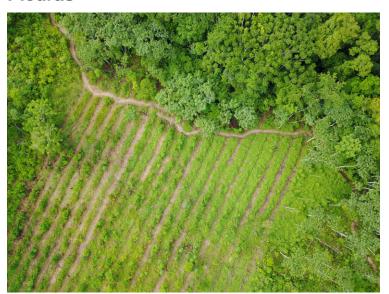
Logging has taken a great toll across large parts of the Amazon as the global human footprint rapidly expands. One of the simplest and most straightforward ways we can counteract this is by planting trees, and we have been hard at work doing just that over the past two years.

Our reforestation strategy in the Peruvian Amazon is three-fold. First, we are planting thousands of native trees that will one day provide food and shelter for wildlife, store carbon to mitigate climate change, and restore a healthy Amazonian food web. Second, we are reforesting strategic areas at Finca Las Piedras that will increase habitat connectivity and provide corridors that wildlife needs to maintain healthy populations. And third, we are installing experimental agroforestry plots that are being used to demonstrate how our community can manage productive land that simultaneously protects biodiversity and the ecosystem services that the rainforest provides.

We're making great progress restoring the Amazon and laying the foundation for even greater success in the future. Read on to learn more about the actions we've taken so far and what's in store for 2021 and beyond.

Our Reforestation Projects

Restoring the Rainforest at Finca Las Piedras



In addition to the new plots detailed here, we have planted more than 1,000 trees across Finca Las Piedras in strategic areas that will one day serve as wildlife corridors, connecting fragmented rain-forest patches and ensuring the health of the local ecosystem. Species include those that have been unsustainably logged or even driven to commercial extinction in our area due to overharvest like big-leaf mahogany (*Swietenia macrophylla*), Spanish cedar (*Cedrela odorata*), and ironwood (*Dipteryx micrantha*), among many others.

Debbie Ford Memorial Rainforest



This area is currently being reforested with timber species that are being logged unsustainably in the region, in loving memory of our friend Debbie Ford. Trees planted here will one day grow into towering giants that will provide food and shelter for local wildlife, restoring a significant part of the local ecosystem in the process.

ASA-ACEER Cacao AgroforestrySystem



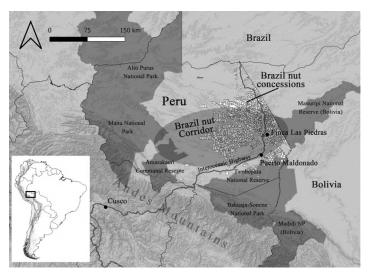
This agroforestry system, planted in collaboration with our partner ACEER, includes three important Amazonian natives—'guava' (*Inga edulis*), cacao (*Theobroma cacao*), from which chocolate is made, and Brazil nut (Bertholletia excelsa), an important local non-timber forest product. Guava grows quickly and will shade out invasive cattle grass, improving the soil for cacao production. Brazil nuts grow more slowly and will start to bear fruit as cacao has passed its productive phase. The goal is to provide local farmers with an agroforestry system that provides continual income but maintains tree cover in the long term.

Copoazu-Biochar Experimental Plot



Copoazu (*Theobroma grandiflorum*) is an important—and delicious! —local fruit that is related to its more well-known relative cacao (*T. cacao*) and grown commonly in our region for its pulp, which is made into juice and ice cream. Our experimental plot is testing biochar as an organic method for improving degraded tropical soils. Indigenous Amazonians used this technology millennia ago to create some of the world's most productive soils from some of its poorest, and we are hopeful that biochar can help us to improve the sustainability of local agricultural practices in modern times.

What's next?



The so-called 'Brazil Nut Corridor' in southeastern Peru, which serves as a critical connection between major protected areas in the region. Our goal is to secure this area by working with the Brazil nut harvesters who are its defenders.

Acres that will be protected: >25,000

In 2020 we secured funding from two of our partners, Wild Green Future and the New England Biolabs Foundation, to launch an ambitious new project in 2021. The plan is to work with our local association of Brazil nut harvesters who, together, manage more than 25,000 acres for the extraction of Brazil nuts from natural forest. Although the annual harvest is intended to be low-impact, a near total lack of replacement planting for trees that die of old age and an increase in unsustainable logging in Brazil nut forests mean that this activity is heading towards trouble. Through our project 'Protecting Brazil nut forests and securing sustainable livelihoods' we will build a community tree nursery, teach our local harvesters the techniques used to produce Brazil nut seedlings, and train them in silvicultural best practices to ensure that the trees they plant one day grow into productive giants.

Education

Today's young people are tomorrow's leaders, so delivering quality environmental education and meaningful training experiences is the most important thing we can do to ensure the long-term survival of the Amazon. We work with local children and university students from across Peru to give them the knowledge and skills they need to become the next generation of rainforest defenders.

Our Education & Training Projects

Annual Environmental Education Experience



Our annual environmental education experiences are designed to foster strong environmental identities and encourage proenvironmental behavior among the Madre de Dios region's local children, especially those in the most underserved communities. In 2019 the experience's theme was 'The World of Ants' and children learned about these incredible insects through interactive exhibits and hands-on activities.

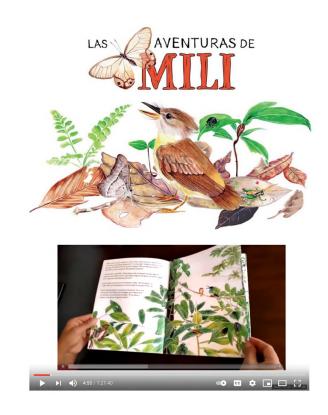


We blend art and science in a way that is accessible to children to provide a meaningful and impactful experience. Watercolor panels, produced by Zoe Wood (Resident Naturalist, 2019) and photographs (Paul Bertner, Geoff Gallice) allowed children to immerse themselves in the world of ants, some of the tiniest yet most fascinating creatures in the Amazon.

Children reached in 2019: >1,400 students at 7 schools

Educational Book Published:

"Millie's Misadventures"



'Millie's Misadventures' is a fun and educational story written and illustrated by Allison Stoiser, one of our 2019 Lepidoptera Research Assistants. The story follows Mili, an Amazonian royal flycatcher, as she learns how to hunt and survive in the rainforest. By following her journey, the book's young readers learn a lot about the Amazon and its wildlife themselves.

Millie was created originally as part of Allison's capstone project at Clemson University. The story had enormous potential to be used for environmental education, so in 2020, in collaboration with the Red de Aprendizaje v Conservación, National Geographic, and the ACEER Foundation, we produced the first edition of 'Las Aventuras de Mili', Allison's original story translated into Spanish language. 1,000 copies have already been distributed to elementary students throughout the Madre de Dios region, focusing especially on children living within the remote buffer zone of Manu National Park. In 2021, Millie's Misadventures will be incorporated into the 4th grade curriculum region-wide, thanks to a partnership between ASA, Red de Aprendizaje y Conservación, National Geographic, and the Madre de Dios regional government.

Las Aventuras de Mili is free to download on ACEER's website in Spanish (https://www.aceeramigos.com/las-aventuras-de-mili) and comes with supplementary materials, including videos highlighting some of the birds and butterflies featured in the book. There is even a free Spanish audiobook available!

Adapting to the New Reality:

"One Minute with Insects"



One Minute with Insects is a series of 12 short videos produced by ASA targeting elementary-aged children to teach them about the diversity and biology of insects. The videos are freely available on Facebook, one of the most commonly used social media platforms in Madre de Dios; we have also distributed the videos to >30 teachers throughout the region to be used in their classrooms. To date the project has reached more than 8,600 people in total.

Our Research & Education Center

Finca Las Piedras



Finca Las Piedras is our research and education center in Peru's Madre de Dios region. The site offers comfortable facilities and provides access to several Amazonian ecosystems, right in the heart of the world's most important biodiversity hotspot. Students and others from Peru and all over the world, and from all educational levels and backgrounds, come here for courses, field trips, and training opportunities.

Select Courses, Groups, and Events Hosted at Finca Las Piedras in 2019-2020



Teacher Training Courses

Organized and co-hosted by our partner ACEER, these three courses offered local elementary and high school teachers hands-on training in field biology and reforestation techniques.



Undergraduate Training Sessions

Organized by our partner ACEER and hosted at Finca Las Piedras, these sessions bring student volunteers into the field to learn about the ASA's work while gaining practical experience and skills.



Bioblitz

Co-organized with ACEER and with support from Nat Geo, this was the first rapid biodiversity inventory of its kind in the region, run by local students of all age groups.



Course: Conservation in the Peruvian Amazon

Students came from the Pontifical Catholic University of Peru in Lima to the Amazon to learn about the rainforest and the region's environmental challenges.



Service Learning

Our second program with the Universidad del Pacifico in Lima students were given the chance to learn about the Amazon while using their skills to help local communities.

Training

Community Engagement Interns& Research Residencies

We offer a variety of training and professional development internships to undergraduate students from across Peru to help these future leaders strengthen their skills and gain experience in the field.



Doralí Zuñiga Research Residency in Lepidoptera (2019)



Rosa Rojas Community Engagement Intern (2019)



Juana Seminario Community Engagement Intern (2020)



Rafael Tejeira Research Residency in Lepidoptera (2020)



Zunilda Escalante Research Residency (2020)



Claudia Alcántara Community Engagement Intern (2020)



Thalia Hurtado Research Residency in Lepidoptera (2020)



Ccahuana
Research
Residency in
Lepidoptera
(2020)

Rodrigo

Research Interns

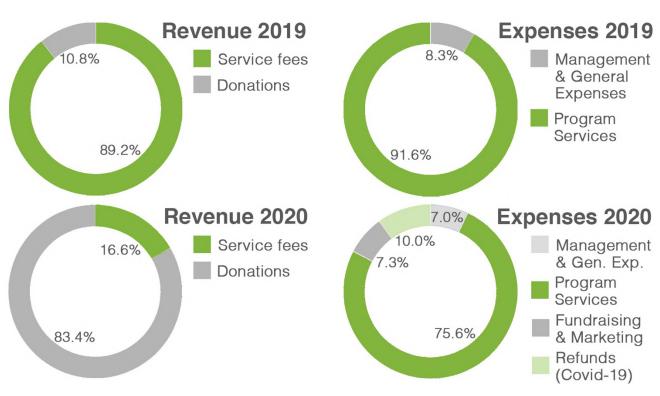


In addition to those mentioned above, we also run an internship program that is open to early career biologists, conservationists, and others from all over the world that are looking to gain more experience in the field, particularly in biological field research. Interns learn about and contribute to the ASA's diverse projects spanning research, reforestation, and education, and design and carry out an independent project of their own.

Although we did not receive any interns in 2020 due to Covid-19, in 2019 we hosted and trained 11 interns, who produced 10 reports outlining their research findings. Many of our interns have returned later as ASA staff, published articles in peer-reviewed scientific journals based on their research in Peru, or gone on to graduate school in STEM fields. We're very proud of our internship program and all of our amazing, hard-working interns!

Financials

	2019	2020
Revenue		
Service Fees	\$39,079.50	\$7,653.25
Donations	\$4,731.96	\$38,435.28
Balance from Previous Year	\$2,373.48	\$1,393.56
Total Revenue	\$46,184.94	\$47,482.09
Expenses		
Management & General Expenses	\$3,732.38	\$2,779.93
Program Services	\$41,032.73	\$29,901.38
Fundraising & Marketing	\$26.27	\$2,900.52
Service Fee Refunds Due to Covid-19	N/A	\$3,954.99
Total Expenses	\$44,791.38	\$39,536.82
Balance for Next Year	\$1,393.56	\$7,945.27



Rainforest Champions



Our work to protect and restore the Amazon is possible thanks to the financial support of our incredible community of donors. You are our Rainforest Champions, and we are grateful for your support.

Donors 2019-2020

John Kent Walker & Diana Ruth Walsh - Geoff Gallice & Johana Reyes - Nicole Finitzo - See's Consulting & Testting - Delores Homisak - Christian Gallice - Barry - Raquel & Patrick Girvin - Eric Muller-Girard - The Toronto Dominion Bank - Phillipe Gallice & Patricia Picard - Bhavik Pathak - KD Singh - Jessica Ferreira - Lisa Stoiser - Geoff Gallice - Cheng Gao - Emily Upham-Mills - Johana Reyes - Maite Ilundain Arregui - Sam Scianna - Laura McGrath - Terese Finitzo - Merck Foundation - Brendan Hieber - Jon Pruitt - Alan Hoffman - Anonymous - Arianna Lapke - Caroline Lane - Daniele Michaud - David Klinges - Donna M Scholer - Esther See - Heidi Noriega - Iris Stoiser - Luzmila Suarez loayza - Tatiana Santos - Donna Moy-Bruno - Gregory Smith - Samantha Scully Jordt - Therese Finitzo - Teresa Illundain - Elizabeth Haynes - Andrew Driver - Sara Carmichael - Jo-Anne Peterfy - Natalia Yudina-Davis - Constance Dubuc - Annie Cantrell - Romina Castaneda - Madeline Grothus - Alex van Belleghem - Belinda Wilkins - Louise Dobbs - Maria Lino - Maribel Lopez - Riccardo Mattea - Sarah Duke - Sidney Short - Ambarish Roy - Andrew Hutton - Angela Leutwiler H. - Casey Keller - Dana Klinges - David Ervin - Emily Lammers - Emily Smith - Gayl Teichert - Jane Beattie - Joao K Vilca Soto - Johanna Stoiser - Jon B.C. - Karen Cruz - Lianna Kushi - Marian Campbell - Meredith Leight - Nicole Lavy - Norbert Nguyen - Pam Theisen - Rocio Mónica Mayoria Quinteros - Sally Painter - Shinichi Nakahara - Tania & Patrick - Trang Nguyen - Alexander Baker - Danielle Heyl - Jennifer Stabile - Kathleen Meehan - Quyen Nguyen - Sally Painter Photography - Vicky Poole - Federico Palmero - Guillamme Fleury - Drew Duffy - Janika Bo - Marcella Jaeger - Zoe Wood - Mogens Lebeda - Olli-Pekka Johannes Linderman - Mike Belleghem - Willa Constance Fouts - Alexander Van Belleghem - Sonja Ekkenberg - Anton Sorokin - Stanley Davis - Jasmine Vink - Klaudia Lipinska - Lisa Stock - Alvaro Reyes Quinteros - Armanda Eiden - Anthony Borelli - April Pelt - Ashley Benson - Ch

Debbie Ford Memorial Fund Donors

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Our Community

Leadership

Geoff Gallice, Ph.D. (President of the Board, ASA) Johana Reyes Quinteros, M.A. (President of the Board, ASA Peru) Timothy Perez, Ph.D. (Secretary of the Board, ASA)

Timothy Perez, Ph.D. (Secretary of the Board, ASA Bhavik Pathak (Treasurer of the Board, ASA)

ASA Science Advisory Board

Erik Iverson, M.Sc. (Founding Member & Co-Chair) David Klinges (Founding Member & Co-Chair)

ASA Staff

Academic Programs Coordinator 2019:
Riccardo Mattea
Lead Naturalist 2020: Joseph See
Resident Naturalist 2019: Levin Chamberlain, Zoe
Wood, Megan Muller-Girard, Jon Pruitt
Resident Naturalist 2020: Max Whithey
Research Assistant, Lepidoptera 2019: Jose Carlos
Rivas, Lindsey Cathcart, Allison Stoiser
Marketing and Development Officer 2020: Laura
Coomber

Finca Las Piedras Staff

Jose Cueva – Head Chef Gualberto Guerra – Head of Maintenance Renzo Meza – Maintenance Maribel Meza – Housekeeping

Community Engagement Interns

Rosa Rojas (2019) Claudia Alcantara, Juana Seminario (2020) Ashley Ersepke (Biological Illustration; 2019-2020)

Research Interns

Quincy Knowlton, Naeem El Choufy, Hailey Jennings, Alessandra Wilcox, Kees Mulder, Jorge Rivera, Mitch Thiesen, Clara Zheng, Francesca Manucci, Allie Leight, Jonah Cruz

Research Residency, Lepidoptera

2019: Dorali Zuñiga 2020: Thalia Hurtado, Luis Ccahuana, Rafael Tejeira

Biodiversity Expeditions

Expedition Leaders, Gallito de las Rocas 2019:
Geoff Gallice, Gloria Jilahuanco, Anton Sorokin, Julian Heavyside, Patrick Burke
Expedition Participants, Gallito de las Rocas 2019:

xpedition Participants, Gailitó de las Rocas 2019 Jessica Ferreira, Marcela Jimenez, Alex Van Bellingham, Stephen Smith, Graham Floyd

Volunteers, Finca Las Piedras

Monica Liedtke, Marisa Grillo, Luisa Velez, Laura McGrath (2019) Kathryn Neal, Nicole Malay (2020)

Our Partners

Protecting and restoring the Amazon is hard work, and we can't do it alone. These are the organizations that we work with to advance research, reforestation, and education in Peru:







CONSERVATION
WILDLIFE
FOUNDATION



