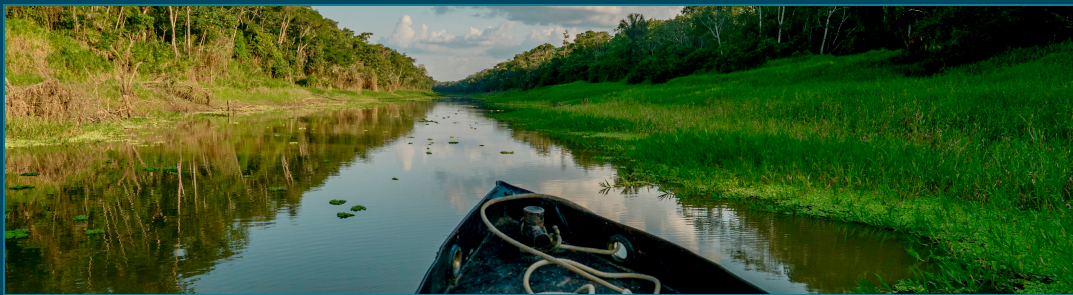


THE SCHOOL FOR FIELD STUDIES

DIRECTED RESEARCH PERU

Center for Amazon Studies · Tarapoto, San Martín. A complete record of student research projects from the four most recent semesters.



SPRING 2026

6 projects · 17 student authors

FALL 2025

6 projects · 10 student authors

SPRING 2025

7 projects · 14 student authors

FALL 2024

5 projects · 5 student authors

24

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SEMESTERS

FALL 2024 – SPRING 2026

ABOUT THIS GUIDE

Directed Research is the capstone of every SFS semester: students work in small teams with resident faculty on questions set by the needs of the host community and its ecosystems. This guide collects the Directed Research projects completed at the Center for Amazon Studies in Tarapoto, San Martín, Peru, over the four most recent semesters.

Projects are listed newest first. Each entry gives the project title, its faculty advisor or advisors, and the student authors with their home institutions. Each entry closes with a research summary drawn from the Center’s semester final report for that project. Where a project’s final paper carries a formal author abstract, that abstract replaces the summary and is labelled as such.

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FACULTY ADVISORS

Directed Research at the Center for Amazon Studies was advised by 4 faculty and researchers across these semesters.

ADVISOR	PROJECTS	SEMESTERS
Dr. Ricardo Sánchez Calderón	12	All four semesters
Dr. Cecilia Beatriz Barriga Bahamonde	8	All four semesters
Dr. Sonja Bleeker	3	Fall 2024, Spring 2025, Spring 2026
Dr. Edwin Rap	1	Fall 2025

Center for Amazon Studies · Tarapoto, San Martín, Peru

01 **Assessing the Influence of Community-Based Conservation Efforts on Terrestrial Mammalian Biodiversity in Chirikyacu Native Community**

Faculty advisor: Dr. Cecilia Beatriz Barriga Bahamonde

Cazzie Kane¹, Colin Richardson², Jessica Yauri-Cambi³

¹ Ohio Wesleyan University, ² Davidson College, ³ Clark University

RESEARCH SUMMARY

Camera traps set in Chirikyacu's primary forest and in purma — secondary regrowth — recorded the terrestrial mammal community across the community's territory. Traps left running from the previous semester, plus three placed during a January scouting trip in deeper forest, gave a longer sampling window and a higher recorded diversity than before. Purma showed richness and diversity similar to primary forest, which the advisor reads as evidence of sound land management and forest conservation by the Chirikyacu Indigenous Community; predators were recorded in primary forest not far from purma. AI software sped up photo sorting but introduced identification errors students did not always catch, and two traps failed shortly after deployment in purma, weakening that habitat's sample.

02 **Impacts of Biocultural Tourism on Indigenous Wellbeing and Cultural Preservation: Case Study in the Native Peruvian Community of Chirikyacu**

Faculty advisor: Dr. Cecilia Beatriz Barriga Bahamonde

Olivia Amsden¹, Sebastian Carrasco¹

¹ University of Colorado Boulder

RESEARCH SUMMARY

This project characterised aspects of Chirikyacu's culture, built a timeline, and identified the drivers changing it, alongside the benefits and perceptions of tourism in the community. The community reports satisfaction with tourism: it brings economic and social benefit and helps preserve both their culture and their land. The advisor notes that culture proved too broad a subject for two students to cover fully, and that the economic dimension is a delicate topic locally. Next steps are to explore particular aspects in more depth, leave a video or similar material with the community, and develop an instrument for measuring cultural vitality that can be applied in other communities.

03 **Conservation in Conflict: Negotiating Livelihoods, Authority, and Environmental Protection in the Cordillera Escalera Regional Conservation Area**

Faculty advisor: Dr. Sonja Bleeker

Peyton Zidlicky¹, Elise Eichner², Emily Dzierzak³, Seneca Pharmer⁴, Klara Young⁵

¹ University of Wisconsin–Green Bay, ² University of Massachusetts Amherst, ³ University of Wisconsin–Madison, ⁴ Oberlin College and Conservatory, ⁵ University of Colorado Boulder

RESEARCH SUMMARY

Building on Spring and Fall 2025, this project interviewed the actors around the Cordillera Escalera Regional Conservation Area — Kichwa communities, federations, NGOs, and authorities — and analysed their positions using political ecology and conflict analysis frameworks. It produced three outputs: a case submitted to the Environmental Justice Atlas, a website about the case, and an academic-style article, the first two intended to reach local stakeholders

and a global network of researchers and activists. Students and faculty also facilitated a dialogue between stakeholders using non-violent communication methodology. The open question is who maintains the website: ideally an actor other than SFS, so that local actors own how the information is framed and updated over time.

04 **Phyllostomid Bat Species Diversity and Abundance Across an Agricultural Gradient in a Kichwa Community in the Peruvian Amazon**

Faculty advisor: Dr. Ricardo Sánchez Calderón

Ava Wangen¹, Emma Moore², Leo Chiu³

¹ Point Loma Nazarene University, ² Anderson University, ³ Tufts University

RESEARCH SUMMARY

This project extended the Center's multi-semester bat survey across the agricultural gradient of the Chirikyacu Native Community, adding sites deep in the forest that required camping and a five-hour walk to reach. With four semesters of effort now combined, the advisor reports sufficient spatial and temporal coverage to support conclusions about how the community's land management balances food production against biodiversity conservation. A documentary was produced to share the findings with the community, along with a proposal for an interpreted tourist route based on the landscape characteristics identified. A scientific paper is the goal.

05 **Evaluating the Impact of Indigenous Agricultural Systems on Bat-Plant Seed Dispersal in a Northern Peruvian Indigenous Community**

Faculty advisor: Dr. Ricardo Sánchez Calderón

Darian Torres¹, Jenna Loveman²

¹ Hamilton College, ² Skidmore College

RESEARCH SUMMARY

This project evaluated how Indigenous agricultural systems affect bat-mediated seed dispersal in Chirikyacu, part of the same landscape-scale bat study. Sampling now covers chacras, purmas, riparian forest, and old-growth forest, with four sites in most habitats. Seed identification remains the limiting step — the advisor notes the need for reference catalogues and for people with deeper knowledge of regional plant diversity. A short scientific note is planned from the data available so far.

06 **Habitat-Associated Variation in Bat–Ectoparasite Interactions in the Chirikyacu Territory, Peru**

Faculty advisor: Dr. Ricardo Sánchez Calderón

Tony Shen¹, Renata Guo²

¹ University of Wisconsin–Madison, ² University of Florida

RESEARCH SUMMARY

Bat flies and other ectoparasites index the condition of their hosts, which makes them a route into bat population health. This project examined how bat–ectoparasite interactions vary between habitats across the Chirikyacu territory. It adds to the Center's accumulating bat dataset, which now spans chacras, purmas, riparian forest, and old-growth forest; a poster was produced for the community and a bat memory card game designed for its children.

Center for Amazon Studies · Tarapoto, San Martín, Peru

01 **An Evaluation of the Cultural and Economic Benefits of Medicinal Plant Usage in Chirikyacu Indigenous Community, San Martín, Peru**

Faculty advisor: Dr. Cecilia Beatriz Barriga Bahamonde

Tashi Rai¹

¹ Bard College

RESEARCH SUMMARY

This project evaluated the cultural and economic benefits of medicinal plant use in Chirikyacu, drawing on interviews conducted in Spanish by the student who proposed the topic. A large number of plants with medicinal use were identified and valued using cultural value indices and economic values. The advisor notes that with so many plants, interview time was too short to explore each in depth, and that showing printed images of common regional species may have narrowed responses. The findings inform a summer course under development on this subject.

02 **Examining Community-Conservation Methods in Peru: An Analysis of Subsistence Hunting Practices of the Chirikyacu Native Community and Their Impact on Terrestrial Mammals**

Faculty advisor: Dr. Cecilia Beatriz Barriga Bahamonde

Julia Charlwood¹, Liam Pentangelo²

¹ University of Massachusetts/Amherst, ² Colorado College

RESEARCH SUMMARY

This project combined interviews on hunting practice with the Center's first camera trap deployment for a conservation studies project in Chirikyacu. Game animals were captured near the community, more often in forest patches than in purma as expected — a first indication that the community's conservation efforts are working. The photographs also serve to show visitors and partners the fauna those practices maintain. Analysing the camera data proved time-consuming and required considerable troubleshooting of the analysis workflow; because interview honesty is always uncertain, more people were interviewed this time to build a fuller picture.

03 **Impact of Chakra Agricultural System on Bat Functional Diversity in the Northern Peruvian Amazon**

Faculty advisor: Dr. Ricardo Sánchez Calderón

Jane Watson¹

¹ Colorado College

RESEARCH SUMMARY

This project measured how the chakra agricultural system affects the functional diversity of bats in the northern Peruvian Amazon, adding to the Center's landscape-scale bat study. New sites deep in Chirikyacu forest required camping, and heavy rain limited data collection to one of the two nights there. A poster was produced to summarise the findings for the community, and a bat memory card game designed for its children.

04 **Frugivorous Bat Interactions with Plants and Their Role in Seed Dispersal Across an Agricultural Gradient in a Peruvian Indigenous Community**

Faculty advisor: Dr. Ricardo Sánchez Calderón

Charlie Fox-Whelpton¹, Ryley Olsen², Davis Peltier³

¹ Clark University, ² Colorado College, ³ Sewanee: The University of the South

RESEARCH SUMMARY

This project examined frugivorous bat interactions with plants and their role in seed dispersal across the agricultural gradient in Chirikyacu. Some seeds proved difficult to identify, and the advisor notes the need for reference catalogues and local plant expertise. It contributes to the accumulating bat dataset, which by this semester covered chacras, purmas, riparian forest, and a single old-growth site — four sites per habitat being the target for confident conclusions.

05 **Assessing the Impact of Chacras Agricultural System on Bat Community Health in the Northern Peruvian Amazon**

Faculty advisor: Dr. Ricardo Sánchez Calderón

Ellie Connor¹

¹ Kenyon College

RESEARCH SUMMARY

This individual project assessed the impact of the chacras agricultural system on the health of the bat community in the northern Peruvian Amazon. It shares the sampling campaign of the other bat projects that semester, including the camping trip to distant forest sites where rain cost one of the two survey nights.

06 **Contested Conservation: Power, Narratives, and Environmental Justice in Cordillera Escalera Protected Area**

Faculty advisor: Dr. Edwin Rap

Dahlia Miller¹, Dakota Wilson²

¹ Williams College, ² Bowdoin College

RESEARCH SUMMARY

This project examined power, narratives, and environmental justice around the Cordillera Escalera protected area, and in its autumn form documented a case of communal territory self-demarcation at Alto Chazuta Yacu in the Bajo Huallaga. The advisor sees many directions for continuation in and around the conservation area: portraying further self-demarcation efforts, or focusing on park guards, petroleum exploitation, or migrant communities.

Center for Amazon Studies • Tarapoto, San Martín, Peru

01 Provisioning and Management of Natural Water Sources Within the Indigenous Chirikyacu Community

Faculty advisor: Dr. Cecilia Beatriz Barriga Bahamonde

Taylor Hemenway¹

¹ Eckerd College

RESEARCH SUMMARY

This project systematised the relationship between the Chirikyacu community and its water — how natural sources are provisioned and managed, and how carefully they are looked after without any economic value being attached to them. The absence of metered supply made water use hard to estimate, though it was approximated from container volumes. Language was a barrier throughout, with interviews running long through translation, and students refined their questions after each one. The advisor sees the Nature's Contributions to People line continuing through other contributions important to the community: medicinal plants, timber, air, and tourism.

02 Exploring the Value and Perceptions of Game Animals in Chirikyacu: Understanding Ecosystem Services and Drivers of Change in Indigenous Communities

Faculty advisor: Dr. Cecilia Beatriz Barriga Bahamonde

Jude Couch¹

¹ College of the Holy Cross

RESEARCH SUMMARY

This project explored the value and perception of game animals in Chirikyacu, examining ecosystem services and the drivers of change as the community shifts toward raised meat. The results confirm the community's own account: the principal driver is conservation arising from internal motivation and pride. Because the community has agreed to hunt less, responses may be biased, though the number and range of answers offsets this. The advisor proposes camera trap monitoring to test how effective those conservation measures are for game animals.

03 Wild Fruit Trees as a Valuable Ecosystem Service in the Kichwa-Lamas Community of Chirikyacu

Faculty advisor: Dr. Cecilia Beatriz Barriga Bahamonde

Jess Kowalski¹

¹ Iowa State University

RESEARCH SUMMARY

This project treated wild fruit trees as an ecosystem service in the Kichwa-Lamas community of Chirikyacu, estimating the consumption, economic, and ecological value of ten fruits. Added together, those values give a picture of the substantial contribution native fruit trees make to the community; at the community presentation, people proposed ways to maintain and expand this to share with visitors. Valuing ten fruits required substantial additional research, and the student intends to develop the work further and present it at an academic conference.

04 Effects of Indigenous Chakra Systems on Frugivorous Bat Diets and Seed Dispersal in the Chirikyacu Community of San Martín, Peru

Faculty advisor: Dr. Ricardo Sánchez Calderón

Josie Kirley¹, Kieran Lamb²

¹ Colorado College, ² Dickinson College

RESEARCH SUMMARY

This project examined how Indigenous chakra systems affect frugivorous bat diets and seed dispersal in Chirikyacu, increasing the spatial and temporal coverage of the bat study begun the previous autumn. Some sites required long, difficult hikes, and seed identification remained a limiting step. The advisor notes coverage is still insufficient for strong conclusions, but enough to begin producing science communication material and to consider turning bat ecology into tools for land management decisions and ecotourism.

05 Analyzing Foliar Disease in Piperaceae Across a Gradient of Anthropogenic Disturbance by Subsistence Agriculture in Northern Peru

Faculty advisor: Dr. Ricardo Sánchez Calderón

Lily Ashby¹, Zach Robinson²

¹ University of California/Santa Barbara, ² Montana State University/Bozeman

RESEARCH SUMMARY

This exploratory project analysed foliar disease in Piperaceae across a gradient of anthropogenic disturbance from subsistence agriculture. It tested whether *Piper* plants could add a component to the overarching land-use question the Center pursues through bats; because *Piper* is recognised and widely used by native communities, the group is also of direct local interest. As an exploratory study it worked at a broad taxonomic resolution, and the advisor plans to refine data collection and tie the work more closely to the established bat projects and to the community.

06 Assessing Impacts of Indigenous Agriculture on Moth Functional Traits and Diversity in Premontane Forests of San Martín, Peru

Faculty advisor: Dr. Ricardo Sánchez Calderón

Anders Hashtings¹, Sophia Gabelger², Chase Ellis³

¹ Colorado State University/Fort Collins, ² Kenyon College, ³ Ohio Wesleyan University

RESEARCH SUMMARY

This exploratory project assessed how Indigenous agriculture affects moth functional traits and diversity in the premontane forests of San Martín, testing moths as a further component of the Center's land-use question alongside bats. As with the Piperaceae study run the same semester, a finer taxonomic resolution is needed before firm conclusions can be drawn; the advisor plans methodological refinement and closer connection to the established bat projects.

07 Conflicting Discourses and Environmental Justice Outcomes in the Creation and Management of the ACR-CE Protected Area

Faculty advisor: Dr. Sonja Bleeker

Eliana Hockman¹, Samantha Bretl², Angélica Fogarty³, Isabel Gonzales⁴

¹ Washington University in St. Louis, ² University of Wisconsin/Madison, ³ Fordham University, ⁴ Oberlin College

RESEARCH SUMMARY

This project examined the conflicting discourses and environmental justice outcomes surrounding the creation and management of the Cordillera Escalera Regional Conservation Area. The advisor highlights what it showed students in practice — how different positions on who should protect a territory, and how, generate tension and conflict — and how it prompted reflection on their own positionality as researchers. The final products, the documentary in particular, are intended to open constructive dialogue between stakeholders, and the work brought SFS into contact with a wide range of actors in the local conservation debate. The project's breadth was its main challenge; future iterations will narrow to a specific subtopic, set of actors, or geographical area.

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01 Exploring Environmental Justice and Power Dynamics in Conservation: Interactions Between an Indigenous Kichwa Community and External Conservation Agencies in San Martín, Peru

Faculty advisor: Dr. Sonja Bleeker

Natalia Jaramillo¹

¹ Drew University

RESEARCH SUMMARY

This project examined the interactions between an Indigenous Kichwa community and external conservation agencies in San Martín, exploring the power dynamics and environmental justice questions those relationships raise. The site was new to both faculty and student, so time went into understanding the social, cultural, and political context in which conservation is carried out, and transcribing the interviews was substantial work for a team of two. The advisor describes the results as interesting and relevant, and suggests transcription software or a real-time transcriber to free up analysis time in future.

02 Evaluating the Motivations and Perceived Benefits of Natural Systems and Ecosystems by Indigenous Peruvians

Faculty advisor: Dr. Cecilia Beatriz Barriga Bahamonde

Rebecca Saper¹

¹ Rensselaer Polytechnic Institute

RESEARCH SUMMARY

This project evaluated how Indigenous Peruvians perceive the benefits of natural systems and ecosystems, and what motivates them to conserve. Interviews were conducted with faculty support for translation, and the student then applied a computer science background to the analysis — which the advisor cites as an example of how students from different disciplines can find their footing in conservation research. As a first study of perceptions and motivations in this area, it points toward follow-up work assessing the field status of the ecosystem services identified.

03 Impacts of Slash-and-Burn Agriculture on Frugivorous Phyllostomid Bat Foraging in a Premontane Amazonian Forest

Faculty advisor: Dr. Ricardo Sánchez Calderón

Kate Bicks¹

¹ Colorado College

RESEARCH SUMMARY

This project assessed how slash-and-burn agriculture affects frugivorous phyllostomid bat foraging in premontane Amazonian forest. The advisor describes the analysis as integrative and well developed, bringing together species richness, functional traits, and bat–plant interactions to establish a baseline for evaluating the practice’s impacts. The study site was new to the faculty, so logistics depended on community members’ availability to guide the team to potential sites, and seed identification proved difficult.

04 **Phyllostomid Bats as Bioindicators of Human Land Disturbance in an Indigenous Amazonian Community in Northern Peru**

Faculty advisor: Dr. Ricardo Sánchez Calderón

Alexandra Stellwagen¹

¹ University of Richmond

RESEARCH SUMMARY

This project tested phyllostomid bats as bioindicators of human land disturbance in an Indigenous Amazonian community in northern Peru. The student paired the field data with a literature review, comparing results against other regions of similar character so that the findings speak beyond the single community surveyed. Sampling effort at this stage was insufficient for strong conclusions, and the study became the first instalment of a bat programme continued across subsequent semesters.

05 **Effect of land use and sex on ectoparasite prevalence and intensity on Short-tailed Bats (Phyllostomidae: Carollinae) in one Indigenous Amazonian Community from Peru**

Faculty advisor: Dr. Ricardo Sánchez Calderón

Mae Richardson¹

¹ Colorado College

RESEARCH SUMMARY

This project examined how land use and sex affect the prevalence and intensity of ectoparasites on short-tailed bats (Phyllostomidae: Carollinae). It complements the two parallel bat projects run that semester: bat flies index the health of a bat population, which in turn indicates how different land uses are affecting biodiversity. Identifying the flies to species required considerable work, and the advisor notes the need for reference catalogues and specialist expertise in this group.

THE SCHOOL FOR FIELD STUDIES

Center for Amazon Studies, Tarapoto, San Martín, Peru. Titles, faculty advisors, student authors, and home institutions compiled from the SFS Directed Research project lists for Fall 2024, Spring 2025, Fall 2025, and Spring 2026.