



THE SCHOOL
FOR FIELD STUDIES

STUDENT DIRECTED RESEARCH PROJECTS

Titles and Authors

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Australia: SFS Center for Rainforest Studies

The Center for Rainforest Studies' Strategic Research Plan addresses the question: *How can the future of the Wet Tropics in a changing world be ensured?*

Principal Investigator: Amanda Freeman, Ph.D.

Habitat Requirements of the Grey-headed Robin (*Heteromyias cinereifrons*) in the Wet Tropics. Myles Briesch [Bucknell University]; Juliana Fetkewicz [Clark University]; Adam Patel [University of Illinois]; Parker Torres [Southern Methodist University]

Principal Investigator: Catherine Pohlman, Ph.D.

Comparative Methods to Determine Fire History in Tropical North Queensland. Colby Bosley-Smith [University of Vermont]; Rachel Strout [Vassar College]; Ashley Silver [University of Tulsa].

Properties of Succession of Savanna into Gallery Rainforest in the Wet Topics Bioregion of Northeast Queensland. Annie Carlile [Trinity College]; Savannah Conine [University of Wisconsin]; Annie Dickson [University of Colorado]

Riparian Transitions in the Savanna Vegetation of North Queensland, Australia. Emma McGurren [Clark University]; Sean Rice [Clark University]; Calvin Polvorosa [Denison University].

Principal Investigator: Sigrid Heise-Pavlov, Ph.D.

Dung Beetle Assemblages Among Differing Rainforest Developmental Types. Amber Bjerre [Cornell University]; Maura Davis [University of Virginia]; Sydney Lang [University of Southern California].

Dung Beetle Foraging Preferences on the Atherton Tableland. Kyle Buse [Grinnell College]; Lucas Mobley [Yale University].

Measuring success of dung beetle (*Scarabaeoidea*) trap designs. Maxymillian Karkut [Denison University]; Courtney Pomroy [Champlain College].

Water Quality Monitoring Systems in Far North Queensland. William Hoffmann [Denison University].

Bhutan: Center for Himalayan Environment and Development Studies

The Center's central research question is: *How can Bhutan secure its culture, biodiversity, and environment in the face of transition?*

Principal Investigator: Jesse Lewis, Ph.D.

Wildlife Patterns and Perceptions in Paro Valley, Bhutan. Mary Apossos [University of Massachusetts/Amherst]; Katelyn Baker [University of Minnesota/Twin Cities]; Gretta Hotz [Rhodes College]; Katya Koepsel [Montana State University/Bozeman]; Jessica Lawrence [University of Minnesota/Twin Cities]; Benjamin Moulton [Unity College]; Alexander Trevelino [Pennsylvania State University/State College].

Principal Investigator: Kuenga Wangmo, Ph.D.

Analyzing Complementary and Competitive Dimensions of the Relationship between Tourism and Agriculture in the Paro Valley of Bhutan. Xander Corder [Sarah Lawrence College]; Dylan Fishbein [University of Maryland/College Park]; Eva Gemrich [Grinnell College]; Marta Rardin [Muhlenberg College]; Meryl Winicov [Columbia University].

Tourism in the Paro Dzongkhag Produces Disparate Socioeconomic Opportunities. Elena MacKie [Northeastern University]; Nicholas Menice [College of the Holy Cross]; Yuko Nakano [Amherst College]; Vishva Nalamalapu [Grinnell College]; Ceara Wynne [University of Colorado/Colorado Springs].

Principal Investigator: Purna Chhetri, Ph.D.

Species Diversity, Life Forms and some of their adaptive Characteristics along the elevational gradient in a Temperate Mountain of Western Bhutan. Lucy Hayward [Colby-Sawyer College]; Hannah Hutchinson [Seattle Pacific University]; Emily Lindback [Franklin & Marshall College]; Jonas Noomah [Swarthmore College]; Kaya Pulz [Unity College].

Cambodia: SFS Center for Conservation and Development in the Lower Mekong

The Center's central research question is: *How is Cambodia addressing pressing environmental concerns, especially those related to the conservation of biodiversity and the changing dynamics of rural livelihoods that depend on diminishing natural resources?*

Principal Investigator: Megan English, Ph.D.

Bats and Urbanization: The Extent to Which Lyle's Flying Foxes (*Pteropus lylei*) are Affected by Anthropogenic Stressors. Colin Meenk [Whitman College]

It Takes a Village to Raise a Dog: Tails of *Canis lupus familiaris* Welfare and Perceptions in Svay Dangkum Commune, Siem Reap, Cambodia. Brenna Prevelige [Bucknell University]; Monika Metro [Virginia Wesleyan University]

Merit Release, Merit Donation, and Animal Dumping: Origins and Practices in Siem Reap Province, Cambodia. Adriana Salse [University of Wisconsin/Madison]

Principal Investigator: Lisa Arensen, Ph.D.

Youth Perceptions of Forest Ownership and Illegal Logging in Two Bunong Villages. Hanna Rush [University of Washington/Seattle]

War and Resilience: Documentation of the Oral History of Two Bunong Villages. Jacob Handel [Iowa State University]

Use, Availability, and Access of Non-Timber Forest Products in Two Villages in Keo Seima Wildlife Sanctuary. Brynn Reese [Delaware Valley University]; Karlie Cradock [University of Michigan/Ann Arbor]

Principal Investigator: Georgina Lloyd, Ph.D. with Phanna Sok, M.S.

Solid Waste Management in Siem Reap, Cambodia: The Drivers, Practices, and Impacts of Informal Community Dumping. Maya Glicksman [Brown University]

A governance analysis of citizen responsibility within municipal solid waste management in Siem Reap, Cambodia. Victoria Londrigan [Whitman College]; Jennifer Maiorana [University of Michigan/Ann Arbor]

Factors of Affordability in Determining Citizen Participation in Solid Waste Management in Siem Reap, Cambodia. John Dzurec [Miami University/Oxford]

Costa Rica: SFS Center for Sustainable Development Studies

The Center for Sustainable Development Studies' Strategic Research Plan addresses the question: *How can Costa Rica respond to local and global challenges while securing the functionality of its natural and human systems?*

Principal Investigator: Achim Häger, Ph.D.

Woody plant diversity and conservation of native species on coffee agroforestry systems. Virginia Jiang [Columbia University]; Charlotte Nawor [University of Illinois/Urbana-Champaign]; Hali Pregnall [College of William and Mary].

Does shade tree abundance and diversity in coffee farms increase carbon sequestration? Esteban Melendez [Connecticut College]; Robert Ellis [Denison University]; Ben Lefkowitz [Muhlenberg College].

The importance of dominant functional traits for carbon sequestration in agroforestry systems. Adrian Matthews [University of Richmond]; Lauren Fordyce [Dickinson College]; Sydney Chandler [Denison University].

Principal Investigator: J. Edgardo Arévalo, Ph.D.

Testing the acoustic niche hypothesis in four tropical bird species. Sydney McDavid [Denison University]; Meaghan Murray [College of the Holy Cross]; Anna Vrioni [University of Illinois/Urbana-Champaign].

Short-term effects of traffic noise on avian dawn chorus in the neotropics. Christopher Sayers [Cornell University]; Celeste Moreland [University of San Diego]; Haylee Morgan [Providence College].

The relationship between uropygial gland size and feather mite abundance in passerines. Cole Baker [Miami University/Oxford]; Jack Varallo [Miami University/Oxford]; Mark Kim [College of the Holy Cross].

Principal Investigator: Mary Little, LL.M.

Exploration of barriers to recycling program participation in the Nicoya Peninsula, Costa Rica. Alette Kligman [Dickinson College]; Brianna Gilmore [University of North Carolina]; Tess Lewis [Reed College].

Improving public health through recycling education in the Nicoya Peninsula. Ellie Diamond [University of Vermont]; Jordan Joseph [Saint Vincent College].

Tourist interest in local environmental certification in Santa Teresa, Costa Rica. Hannah Curtis [Colorado State University]; Ahnika Jensen [University of Minnesota]; Payton Morse [Providence College].

Kenya: SFS Center for Wildlife and Water Studies

The Center for Wildlife and Water Studies' Strategic Research Plan addresses the question: *How can changes in land use, natural resources utilization and availability in the Amboseli Ecosystem be managed to promote socioeconomic well-being of local communities whilst safeguarding and promoting natural resources conservation?*

Principal Investigator: John Kioko, Ph.D.

Wildlife Distribution and Bird Numbers in Kimana Sanctuary, Southern Kenya. Connor McCarthy [Elon University]; Kathleen Mitchell [Montana State University].

African elephant (*Loxodonta africana*) and giraffe (*Giraffa camelopardalis tippelskirchi*) population dynamics in Kimana Sanctuary, southern Kenya. Julia Gravel [Virginia Commonwealth University]; Kay Murdoch [Clemson University].

Principal Investigator: Kendi Borona, Ph.D.

An Assessment of Maasai People-Water Relationships in a Changing Landscape: A Case Study of Former Kimana Group Ranch. Annie Afranie [Wesleyan University]; Emma Dombrow [University of Minnesota]; Makenna Kull [Clemson University]; Mimi Reed [University of Washington].

Principal Investigator: John Kiringe, Ph.D.

Socioeconomic impacts of climate change on the Maasai community in the Amboseli region, Kenya. Nicole Dobrosky [Franklin and Marshall College].

Climate Change Perceptions, Impacts and Adaptation in the Amboseli Region- Kenya. Grace Faulkner [University of Richmond].

The effects of Climate change on water availability and adaptation strategies in farming communities of the Amboseli Region in Kenya. Natalie Hyde [Queens University of Charlotte].

Panama: SFS Center for Tropical Island Biodiversity Studies

The Center's central research question is: *What is the status of key island systems, both natural and human, and what are the pressures that threaten the delicate balance of the island system?*

Principal Investigator: Carolyn Kovacs, Ph.D.

The effects of tourism on the movement, foraging, and feeding behavior of cushion sea stars, *Oreaster reticulatus*, at Playa Estrella in Bocas Del Toro, Panama. Allyson Ulsh [Pennsylvania State University/State College]; Colin Perkins-Taylor [Swarthmore College]; Elizabeth Walker [St. Catherine University]; Stephanie Liu [Franklin & Marshall College].

Population density, substrate preference, and feeding behavior of *Oreaster reticulatus* and spicule density on Playa Estrella, Bocas del Toro, Panama. Chloe Eggert [Elon University]; Jennifer Loveland-Rose [Wheaton College/Massachusetts]; Siobhan Moynihan [University of Massachusetts/Amherst]; Alexandria Stiller [Whitman College].

Principal Investigator: Leon Mach, Ph.D.

Are local residents invited to the party?: Assessing the impact of party tourism on local stakeholders in Bocas del Toro, Panama. James Connors [Bucknell University]; Bronya Letchman [Colby College]; Samantha Plante [Vassar College]; Calle Uerling [Drake University].

Principal Investigator: Louise Alissa, M.Sc.

The Impacts of Leaf-Cutting Ants Harvesting Plant Biomass within High Disturbed and Low Disturbed Tropical Forest Habitats in Panama. Leah DiMaggio [The University of Wisconsin-Madison]; Luisa McGarvey [Oberlin College]; Kendall Stevens [Whitman College].

The effect of anthropogenic disturbance on foraging behavior trade-offs of leaf cutter ants (*Atta spp.*) in the Bocas del Toro Archipelago in Panama. Stephanie Minarik [Wells College], Grant Pace [Columbia University]; Matt Record [Grinnell College].

Peru: SFS Center for Amazon Studies

The Center's central research question is: *What conditions are necessary for effective conservation and sustainable socioeconomic development in Peru?*

Principal Investigator: Laura Morales, Ph.D.

Ground-Dwelling Arthropod Diversity and Composition During Regrowth of Amazonian Swidden-Fallow Land: A Case Study in Northeast Peruvian Amazon (Loreto, Peru). Claire Mohny [DePauw University].

Arthropod Diversity in Agricultural Compared to Primary Forest Habitats in an Amazonian Region of Northeast Peru. Angelin Lucas [College of the Holy Cross]; Brittney Flaten [Franklin and Marshall College].

Principal Investigator: Milena Cambroner, M.Sc.

Pisciculture Feeding Practices and Productivity of Three Fish Species in the Western Peruvian Amazon. Julie Gerrits [Oberlin College]; Katelyn Hammel [University of North Carolina/Chapel Hill].

Evaluating water quality of fish farms of *Arapaima gigas* and *Colossoma macropomum* along the Iquitos-Nauta road (Loreto, Perú). Steffani O'Neil [University of Pittsburgh].

Principal Investigator: Lisbett Christoffersen, Ph.D.

La Habana: A History of Society, Livelihood and Land Use on the Iquitos-Nauta Road. Katie Brown [University of San Diego]; Sofia Cabrera [Swarthmore College]; Mary Erdman [Gonzaga University].

Tanzania: SFS Center for Wildlife Management Studies

The Center for Wildlife Management Studies' Strategic Research Plan addresses the question: *How can wildlife conservation and socio-economic conditions be enhanced in a changing socio-ecological system within the Tarangire-Manyara Ecosystem?*

Principal Investigator: Christian Kiffner, Ph.D.

Carnivore Occupancy in Makame Wildlife Management Area. Alma Crisp [Smith College]; Evan Douglas [University of Wisconsin-Madison, Madison]; Tiffani Wright [Delaware Valley University]

Human and animal dimensions associated with tolerance for wildlife species in northern Tanzania. Elana Kriegel [Cornell University]; Reilly Becchina [University of Vermont]

Herbivore Population Monitoring in the Makame Wildlife Management Area, Tanzania. Eden Nitza [Emory University]; Caroline Schleimer [Franklin and Marshall College].

Litter Distribution and Composition Along the Borders of Manyara Ranch. Mindy Beam [The Pennsylvania State University]; Layla Gordon [Bucknell University]; Matthew Bowers [The Pennsylvania State University].

Principal Investigator: Ole Theisinger, Ph.D.

Toad-ally Degraded: Monitoring herpetofauna along degradation gradients within the Buger Community Forest of Karatu District, Northern Tanzania. Abigail Armstrong [University of Massachusetts, Amherst]; Luke Beeson [University of Vermont]; Susanna Dapprich [University of Maine]; and Erin Stewart [University of Puget Sound].

Human Attitude, Usage, and Stories About Reptiles in Buger Village, Northern Tanzania. Emily Hollis [Delaware Valley University].

Splattered Species: Ecological, Temporal, and Seasonal Factors Influencing Wildlife Roadkill Patterns in the Tarangire-Manyara Ecosystem of Northern Tanzania. Dorian Tignor [Longwood University]; Margaret Saner [University of Washington/Seattle].

Principal Investigator: John Mwamhanga, M.S.

Assessing Beekeeping Products' Potential for Poverty Alleviation in Karatu District, Northern Tanzania. Elizabeth Williams [Brandeis University]; Siobhan Pascal [Colby College].

Butterfly Population Status in Northern Tanzania. Alivia Lowell [Monmouth University]; Jan Elyse Taylor [University of Massachusetts].

Can Bees Become Bills? A Cost-Benefit Analysis of Beekeeping in Karatu District, Northern Tanzania. Alison P. Schwartz [University of Vermont].

Assessing the Impact of Habitat Degradation on Butterfly Status in Tarangire-Manyara Ecosystem in Northern Tanzania. Madeline Kentner [Albright College]; Erin Kinney [Holy Cross College]; Ki'Ana Speights [Hollins University].

Assessment of Iraqw Indigenous Beekeeping knowledge and its role on Conservation in the Karatu District of Northern Tanzania. Harrison P. Eagle [Gonzaga University]

Turks and Caicos: SFS Center for Marine Resource Management Studies

The Center for Marine Resource Management Studies' Strategic Research Plan addresses the question: *How can SFS-CMRS support the government and South Caicos community to best manage the marine environment and resources to balance biodiversity conservation and economic sustainability?*

Principal Investigator: Franziska Elmer, Ph.D.

Biofuel production from Sargassum spp. on South Caicos, Turks and Caicos Island. Kristen Atkinson [University of Virginia].

A comparison of calcium carbonate reef budgets of the Spanish Chain and Arch dive site, South Caicos, Turks and Caicos Islands. Benny Jean Cytrynbaum [Whitman College]; Alec Heilman [Denison University]; Dana Sabine [Gonzaga University].

The effect of coral species on the topographic complexity of a South Caicos coral reef using 3D modeling. Kaela Hamilton [University of Puget Sound].

The Impact of Beached Sargassum spp. on Seagrass Bed Health and Macroinvertebrate Communities in South Caicos, Turks and Caicos. Samuel Hudgens [Colorado State University/Fort Collins]; Sabrina Koetter [Wesleyan University].

Composition and Longitudinal Profile of Beached Sargassum spp. and Seagrass in South Caicos and its Potential as Soil and Compost Material. John Lee [Arizona State University]; Sarah Shadle [University of St. Thomas/Minnesota].

The effect of Sargassum spp. debris on Thalassia testudinum growth and mortality. Sophia Troeh [Gonzaga University].

Principal Investigator: Ewa Krzyszczyk, Ph.D.

Influence of abiotic and biotic factors on invasive red lionfish (Pterois volitans and Pterois miles) prey consumption in South Caicos. Meredith Berube [University of Vermont].

Decline in Feeding and Rubbing Behavior in A. Bahianus with Black Spot Syndrome. Kylin Brown [Whitman College]; Alonwyn Clauser [Smith College]

Influence of anthropogenic effects in proximity to mangrove habitats on Negaprion brevirostris and Ginglymostoma cirratum in South Caicos, Turks and Caicos Islands. Megan Cassetty [University of Puget Sound]; Corbin Stanley [Maine Maritime Academy].

Preliminary study of anthropogenic impacts on mangrove community assemblages in relation to fishery management and conservation practices in South Caicos, Turks and Caicos. Jacqueline Fahrenholdz [McDaniel College]

Changes in Behavior and Reproductive Stage Distribution of Pterois volitans/miles between Habitats on South Caicos. Neil Ferland [Connecticut College]; Julia Locke [California Lutheran University]

Decrease in Foraging Habits of Ocean Surgeonfish Infected by Black Spot Syndrome in South Caicos, The Turks and Caicos Islands. Sydney O'Brien [Wheaton College/Massachusetts]; Thomas Plein [University of San Diego].

Changes in Behavior and Reproductive Stage Distribution of *Pterios volitans*/miles between Habitats on South Caicos. Robert Price [College of the Holy Cross].

Apex Predator Utilization of Deep-Water Channels to Access Fringe Mangrove Habitat in South Caicos. Patrick Warner [Bowdoin College].

Principal Investigator: Courtney Pickett, M.P.A

Cultural Ecosystem Services: A Case Study in South Caicos. Lina Beron Echavarria [Kenyon College]; Kerry Dunn [Babson College]

Mechanism or Myth: Conch Avoidance Behavior in South Caicos, Turks and Caicos Islands. Conor Courtney [Hamilton College]; Andrew Neighbors [University of Michigan/Ann Arbor]; David Taylor [Grinnell College].

The midden myth: The behavioral response of queen conch (*Lobatus gigas*) to shell middens. Violeta Keifer [Bates College]; Rachel McLellan [College of the Holy Cross]; Trenton Mulick [Boston University]

Principal Investigator: Heidi Hertler, Ph.D.

The Effects of Hurricanes Irma and Maria on the Coral Bleaching on the Reefs of South Caicos. Sarah Knowlton [University of New Hampshire]; Nikola Modric [University of San Diego].

Stony Coral Tissue Loss Disease: tracking this disease and its mortality rate in South Caicos, suggesting disease variation between Florida and South Caicos. Anna Ortega [University of Michigan/Ann Arbor]; Steven Wedel [University of Michigan/Ann Arbor].

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