



# DIRECTED RESEARCH PROJECTS

THE SCHOOL  
FOR FIELD STUDIES

FALL 2024





## AUSTRALIA

### **A snapshot of diversity - North Queensland's first BioBlitz event exploring plant and animal diversity at a reforested urban park in Malanda, Atherton Tablelands**

Faculty advisors: Dr. Deborah Apgaua and Dr. David Tng

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### **Debunking Da Vinci?**

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### **Plant species composition and structural differences between disturbed and undisturbed tropical rainforest revegetation sites**

Faculty advisors: Dr. David Tng and Dr. Deborah Apgaua

Student authors: Sydney A. Sharp<sup>1</sup>, Emma G. Garman<sup>2</sup>, Mia A. Martin-Fuller<sup>3</sup>

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### **Baseline Faunal Survey of the Boar Pocket Road-Creek Crossings**

Faculty advisor: Dr. Sigrid Heise-Pavlov

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### **Revegetation at Road-Creek Crossings Along Boar Pocket Road: Recommendations for the Tablelands Regional Council**

Faculty advisor: Dr. Sigrid Heise-Pavlov

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### **Best Practices for Revegetating a Cinder Cone with Mabi Rainforest**

Faculty advisor: Dr. Sigrid Heise-Pavlov

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### **Evaluation of Environmental Markets Schemes for Mabi Rainforest Restoration on a Cinder Cone**

Faculty advisor: Dr. Sigrid Heise-Pavlov

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### **Using dung beetles as bioindicators for measuring rainforest restoration success**

Faculty advisor: Dr. Mia Derhé

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### **Changes in Public Attitudes Towards Conservation, Appreciation of Nature, and Understanding of Biodiversity Before and After a BioBlitz**

Faculty advisor: Dr. Mia Derhé

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## BHUTAN

### **Effects of varied human disturbance levels on wildlife occupancy in Paro, Bhutan**

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### **Understanding Human-Wild Pig Conflict in Paro Valley, Bhutan**

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### **Assessing Plantation Survival Rates for the Million+ Trees Initiative: A Pilot Study in Bhutan**

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### **Planted Potential: Assessing the Socio-Ecological Impacts of the Million+ Trees Reforestation Project**

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### **From Ritual to Responsibility: How Location of Residence, Age, and Type of Education Influence the Perception of the Environmental Impact of Prayer Flags in Bhutan**

Faculty advisor: Dr. Kuenga Wangmo

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### **Livin' on a Prayer (Flag): A Preliminary Biophysical Survey into the Environmental Impacts of Prayer Flags**

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### **Sustainable Alternatives to Prayer Flags in Bhutan: The Middle Path Between Spiritual Tradition and Pro-Environmental Innovation**

Faculty advisor: Dr. Kuenga Wangmo

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## CAMBODIA

### **Observing a Mixed-Species Raptor Enclosure to Determine Welfare and the Existence of a Social Hierarchy**

Faculty advisor: Dr. Megan English

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### **Understanding behaviours of captive male Silver Indochinese langurs**

Faculty advisor: Dr. Megan English

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### **Are Watersnakes Hisstory? A Wet Season Assessment of Watersnake Bycatch and Trade in the Tonle Sap**

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### **Tardy Titles: Green Grabbed and Gone**

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### **"Don't Call it Phnom Prich Wildlife Sanctuary." A Case Study of Land Cover Change and Swidden Agriculture Decline Due to Protected Area Zonation in Four Bunong Villages in Mondul Kiri Province**

Faculty advisor: Dr. Jean-Christophe Diepart

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## **CHILE**

### **Perception on the effectiveness of conservation management strategies in national parks: Case Study of Torres del Paine**

Faculty advisor: Dr. Florencia Sánchez

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### **An investigation of Pali Aike: Methods and processes in relation to volcanic morphology**

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### **Temporal implications of patterns of effusive and explosive volcanism in Pali Aike Volcanic Field**

Faculty advisor: Dr. Florencia Sánchez

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### **How topography affects soil chemical properties in wetlands: Case study of Wetland Vega Castillo and Peatland Rio Rubens**

Faculty advisor: Dr. Florencia Sánchez

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### **Behavioral responses of Magellanic penguins at their breeding colony on Magdalena Island, Strait of Magellan, Patagonia, Chile**

Faculty advisor: Dr. Glenda Denise Hevia

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### **Proportions of bird species compared between eBird and point counts in the Magallanes Region of Chile**

Faculty advisor: Dr. Glenda Denise Hevia

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### **Determining recession trends in five Patagonian glaciers from satellite imagery**

Faculty advisor: Dr. Francisco Aguirre

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### **Remote sensing phenophase shifts in Patagonian *Nothofagus* forests**

Faculty advisor: Dr. Francisco Aguirre

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### **Accuracy of satellite-derived snow fraction and albedo in Magallanes Region mountains**

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### **Drought signals in southern Patagonia: Exploring proven indicators to create a predictive model**

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## **COSTA RICA**

### **Cultivating agroecological resilience: Assessing food system transformation factors among farmers**

Faculty advisor: Mary Little

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### **Relationship between flammability and water potential in Costa Rican moist vs. dry forests**

Faculty advisor: Milena Cambroneró

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### **Preliminary checklist of amphibians and reptiles of Bajo La Paz, Piedades Norte, San Ramón de Alajuela**

Faculty advisor: Víctor Acosta

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## **CROATIA**

### **Estimating the abundance of bottlenose dolphins (*Tursiops truncatus*) in the Cres-Lošinj Natura 2000 site, Croatia using Chao's closed population model**

Faculty advisor: Grgur Pleslić

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### **Diurnal movement of bottlenose dolphins (*Tursiops truncatus*) in the Cres-Lošinj region of the Adriatic Sea**

Faculty advisor: Grgur Pleslić

Student authors: Reuven Frye<sup>1</sup>, Jane Lively<sup>2</sup>, Rachael Plaisted<sup>3</sup>

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### **Examining the habitat use of bottlenose dolphins in the Cres-Lošinj site of community importance using encounter rates from boat-based surveys**

Faculty advisor: Grgur Pleslić

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### **Preliminary assessment of loggerhead sea turtle (*Caretta caretta*) overlap with industrial fisheries in the Adriatic Sea**

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### **Epibiotic and parasitic loading and composition of *Caretta caretta* in the northeastern Adriatic Sea of Croatia**

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## **ITALY**

### **Identification of socio-economic characteristics and their influence on the delivery of ecosystem services by vineyards in Chianti Classico**

Faculty advisor: Riccardo Simoncini

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### **Assessing ecosystem services in the Chianti Classico region**

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### **Transition towards sustainable viticulture: A case study of the Chianti region**

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### **Biodiversity in agricultural settings of the Chianti area: The foundations for future research**

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## KENYA

### **Effectiveness and sustainability of the Mbirikani Predator Compensation Fund in enhancing community coexistence with lions**

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### **Abundance, distribution, and habitat preference of grey crowned crane in Amboseli National Park and community wetlands**

Faculty advisor: John Kiringe

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### **Anthropogenic threats, wildlife resource use, and intervention measures in conservation of Masai giraffe in the Amboseli ecosystem**

Faculty advisor: Jennifer Wanyingi

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## PANAMA

### **Community perceptions on coastal erosion in Bocas del Toro, Panama**

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### **Investigation of thermal niche adaptations of *Oophaga pumilio* to land-use change through thermal preference experimentation and field observation**

Faculty advisor: Daniel Medina

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### **Assessing the impact of land-use change on the thermal ecology of tropical frogs: A comparison of generalist and forest-restricted species in Bocas del Toro, Panama**

Faculty advisor: Daniel Medina

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### **Herbivory and aggression between keystone herbivorous fishes in coral reef habitats of Bocas del Toro, Panama**

Faculty advisor: Dagoberto E. Venera Pontón

Student authors: Avery Hough<sup>1</sup>, Isabel Arcaris<sup>2</sup>, Nicolas Darringer<sup>2</sup>

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**Population structure and inter-ecosystemic ontogenic patterns of keystone herbivore fishes within the Bocas del Toro Archipelago, Caribbean Panama**

Faculty advisor: Dagoberto E. Venera Pontón

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## PERU

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

Faculty advisor: Sonja Bleeker

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

Faculty advisor: Cecilia Barriga Bahamonde

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

Faculty advisor: Ricardo Sánchez

Student authors and home schools: Kate Bicks<sup>1</sup>

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

Faculty advisor: Ricardo Sánchez

Student authors and home schools: Alexandra Stellwagen<sup>1</sup>

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**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: Ricardo Sánchez

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## TANZANIA

**Assessing the State of Beekeeping Activities in Karatu District, Northern Tanzania**

Faculty advisor: John Mwamhanga

Student authors and home schools: Wren Tetreault<sup>1</sup>, Peter Landis<sup>2</sup>

<sup>1</sup> University of Vermont, <sup>2</sup> Graduate Student

**Spiritual Practices of Maasai and Mbugwe Communities and their Implications for Environmental Conservation, Northern Tanzania**

Faculty advisor: John Mwamhanga

Student authors and home schools: Annika Dank<sup>1</sup>, Stefani Wojcik<sup>2</sup>

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### **The Styles, Creation, and Cultural Ties of Paintings and Carvings in Northern Tanzania**

Faculty advisor: John Mwamhanga

Student authors and home schools: Cassidy Jones<sup>1</sup>

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### **Assessing Invasive Plant Species Control Strategy Effectiveness in Burunge Wildlife Management Area, Northeastern Tanzania**

Faculty advisor: Dr. Shem Mwasi

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### **Activity Patterns and Temporal Niche overlap of Mesopredators in the Tarangire-Manyara ecosystem**

Faculty advisor: Dr. Bernard Kissui

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<sup>1</sup> Washington State University, <sup>2</sup> University of Minnesota

### **Small mammal ecology and vulnerability to ectoparasites across different Karatu District, Northern Tanzania land-use areas**

Faculty advisor: Dr. Egidius James Rwebuga

Student authors and home schools: James Offor<sup>1</sup>, Jiali Pickering<sup>2</sup>, Auguste Reboussin<sup>3</sup>

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### **Influence of Noise on Avian Behavior in Northern Tanzania: Exploring Practical Solutions to Avian Deterrence**

Faculty advisor: Dr. Egidius James Rwebuga

Student authors and home schools: Ally Fetterman<sup>1</sup>, Mackenzie Zerbe<sup>2</sup>, Haley Eckert<sup>3</sup>

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### **Investigating Selected Ecological Parameters of Herpetofauna in Karatu and Monduli Districts, Northern Tanzania**

Faculty advisor: Dr. Egidius James Rwebuga

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## **TURKS AND CAICOS ISLANDS**

### **Assessing Marine Sustainability in Small-Island Developing States**

Faculty advisor: Yuqian Zhang

Student authors and home schools: Mason Tompkins<sup>1</sup>, Hollis Albrecht<sup>2</sup>, Lucia Kitsos<sup>3</sup>

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### **Coral Reef Assessment and Fish Diversity in South Caicos**

Faculty advisor: Yuqian Zhang, John Debuysser

Student authors and home schools: Dylan Hutchinson<sup>1</sup>, Melanie Forney<sup>2</sup>, Madison Eaton<sup>3</sup>, Patty McHugh<sup>4</sup>, CJ Richard<sup>5</sup>

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**The Graveyard Hypothesis: Avoidance Behavior of Queen Conch (*Aliger gigas*) in response to middens (Grave Conch-erns)**

Faculty advisor: C.E. O'Brien

Student authors and home schools: Zachary Baskin<sup>1</sup>, Eva Connor<sup>2</sup>, Corrina Schell<sup>3</sup>

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**The Nexus of Octopus *insularis* Prey, Habitat, and Camouflage between the Turks and Caicos Islands and Brazil (OctoChow)**

Faculty advisor: C.E. O'Brien

Student authors and home schools: Tori Trimble<sup>1</sup>, Malena Podolsky<sup>2</sup>, Bianca Ropeter<sup>3</sup>

<sup>1</sup> Colorado College, <sup>2</sup> Reed College, <sup>3</sup> College of the Holy Cross

**An analysis of the predators, competitors, and population dynamics of Octopus *insularis* in South Caicos and Fernando de Noronha (OctoFoe)**

Faculty advisor: C.E. O'Brien

Student authors and home schools: Quin Berfield-Brewer<sup>1</sup>, Kirby Merlo<sup>2</sup>, Ellie Pohlig<sup>3</sup>

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**Bonefish Ecology: Sustainable Ecotourism and Income Opportunities**

Faculty advisor: Stephan Bruns

Student authors and home schools: Coco Le Roy<sup>1</sup>, Gavin Santos<sup>2</sup>, Ian Harrington<sup>3</sup>

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**CASITAS: Monitoring Lobster Casitas and Their Surrounding Habitat for Ecological Impacts**

Faculty advisor: Stephan Bruns

Student authors and home schools: Elizabeth Malley<sup>1</sup>, Rami Hayes-Messinger<sup>2</sup>, Wyatt Albright<sup>3</sup>

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**BRUVS: Assessing species diversity, richness and relative abundance within the ACLSNP of elasmobranchs (sharks and rays) and predatory reef fish**

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