Sara Mae Kross, PhD

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Current Position

August 2016-Present: Assistant Professor
Department of Environmental Studies, California State University, Sacramento

Education

August 2015-August 2016: Postdoctoral Scholar.
Department of Wildlife, Fish and Conservation Biology, University of California, Davis, California

2013-2015: David. H. Smith Conservation Research Postdoctoral Fellow.
Department of Wildlife, Fish & Conservation Biology, University of California Davis, and in association with *The Nature Conservancy* and *The Society for Conservation Biology*

2008- 2012: **PhD, Zoology**.
School of Biological Sciences, University of Canterbury, Christchurch, New Zealand

2006- 2007: Masters in Research, Environmental Biology.
School of Biological Sciences, University of St. Andrews. St. Andrews, Scotland

2002- 2005: Bachelor of Science, Animal Science.
Cornell University, Ithaca, New York

Peer-Reviewed Publications (and papers nearing submission/ in review)

Kross, S.M., Tait, A., Raubenheimer, D., & Nelson, X.J. *In Revision*. Prey selection by the New Zealand falcon is not driven by prey nutritional content. *New Zealand journal of Zoology*

Wong, E.[+] & **Kross, S.M.** *In Press*. Effects of perch location on raptor use of artificial perches in a California vineyard. Target journal: *Journal of Raptor Research*

Maas, B., Cassano, C.*, Claben, A.*, Darras, K.*, Faria, D.*, Grass, I.*, Williams-Guillen, K.*, Heath, S.*, Johnson, M.*, Karp, D.*, **Kross, S.***, Linden, V., Martinez, A., & Schmack, J. *In Prep.* Experimental field exclosures of birds and bats in agricultural systems: methodological insights, potential improvements and cost-benefit trade offs. Target journal: *Methods in Ecology and Evolution*

Kross, S.M., Hiroyasu, E., Kendall, B., & Baldwin, R.A. *In Prep.* Encouraging owl predation of rodents by erecting owl boxes: myth or potential management strategy? Target journal: *Biological Control*

Kross, S.M., Kelsey, T.R., McColl, C.J., & Townsend, J.M. *In Prep.* Avian-mediated ecosystem services and disservices as a function of field-edge habitat complexity in an intensive farming system. Target journal: *Journal of Applied Ecology*

Kross, S.M., Ingram, K.P., Long, R., & Niles, M. 2017. Farmer perceptions of wildlife targeted by conservation schemes differ based on growing methods, crops grown, and farmer gender. *Conservation Letters (early view)*

Soykan, C.U., Heath, S.K., Velas, K., Kelsey, T.R., & **Kross, S.M.** 2017. A bustle in the hedgerow: Woody field margins boost on farm avian diversity and abundance in an intensive agricultural landscape *Biological Conservation* 212: 153-161.

Kross, S.M., & Baldwin, R.A. 2016. Gopherbusters? A Review of the Candidacy of Barn Owls as the Ultimate Natural Pest Control Option. *Proceedings of the Vertebrate Pest Conference.*

Kross, S.M. 2016. Insect Pest Control and Bird Damage as a Function of Distance from Riparian Habitat in a California Vineyard. *Proceedings of the Vertebrate Pest Conference.*

Kross, S.M., Kelsey, T.R., McColl, C.J., & Townsend, J.M. 2016. Field-scale habitat complexity enhances avian conservation and avian-mediated pest-control services in an intensive agricultural crop. *Agriculture, Ecosystems & Environment*. 225: 140-149.

Kross, S.M., Bourbour, R.P.[+], & Martinico, B.L.[+]. 2016. Agricultural land use, barn owl diets, and vertebrate pest control implications. *Agriculture, Ecosystems & Environment*. 223: 167-174.

Rochman, C.M., **Kross, S.M.,** Armstrong, J.B.*, Bogan, M.T.*, Darling, E.S.*, Green, S.J.*, Smyth, A.R.* & Verissimo, D*. 2015. Scientific evidence supports a ban on microbeads. *Environmental Science and Technology* early view online http://pubs.acs.org/doi/full/10.1021/acs.est.5b03909.

Green, S.J., Armstrong, J.B.*, Bogan, M.T.*, Darling, E.S.*, **Kross, S.M.*,** Rochman, C.M.*, Smyth, A.R.* & Verissimo, D*. 2015. Conservation needs diverse values, approaches and practitioners. *Conservation Letters* early view online 8: 385-387.

Kross, S.M. 2014. Bird electrocutions in New Zealand. *Notornis*. 61: 170-173.

Kross, S.M., J.M. Tylianakis & X.J. Nelson. 2013. Diet compositions and prey choice of New Zealand falcons nesting in anthropogenic and natural habitats. *New Zealand Journal of Ecology.* 37: 51-59.

Kross, S.M., P.G. M[c]Donald & X.J. Nelson. 2013. New Zealand falcon nests suffer lower depredation in agricultural habitat than in natural habitat. *Bird Conservation International*. 23: 512-519. doi 10.1017/s0959270913000130

Kross, S.M. & X.J. Nelson. 2013. Factors influencing the behavioural development of juvenile New Zealand falcons. *Emu*. 113: 84-87. doi 10.1071/mu12020

Kross, S.M., J.M. Tylianakis & X.J. Nelson. 2012. Translocation of Threatened New Zealand Falcons to Vineyards Increases Nest Attendance, Brooding and Feeding Rates. *PLoS One*. 7: e38679. doi:10.1371/journal.pone.0038679

Kross, S.M., J.M. Tylianakis & X.J. Nelson. 2012. Effects of introducing threatened falcons into vineyards on abundance of passeriformes and bird damage to grapes. *Conservation Biology*. 26: 142-149. doi: 10.1111/j.1523-1739.2011.01756.x **Recommended by Faculty of 1000**

Kross, S.M. & X.J. Nelson. 2011. A portable low-cost remote videography system for monitoring wildlife. *Methods in Ecology and Evolution*, 2: 191-196. doi:10.1111/j.2041-210X.2010.00064.x/full (selected to be highlighted on the journal homepage and 'Methods' podcast)

*Authors contributed equally and are listed alphabetically. [+]Undergraduate student.

Reports

Kross, S.M., Hiroyasu, E., Kendall, B., & Baldwin, R.A. 2017. Encouraging owl predation of rodents by erecting owl boxes: myth or potential management strategy? Final report to the Vertebrate Pest Control Research Advisory Committee.

Rochman, C.M., **Kross, S.M.,** Bogan, M., Darling, E., Green, S., Verissimo, D., Smyth, A., Armstrong, J. 2015. Scientific evidence supports a ban on microbeads. *Policy Brief* on behalf of the *Society for Conservation Biology.*

Kross, S.M., A. McLachlan, P. Wood, B. Fisher & B. West. 2013. Final report on the efficacy of the Invisi Shield™ technology for protecting Chardonnay, Sauvignon blanc and Merlot winegrapes from bird predation in commercial vineyards. Confidential report for Invisi Shield Limited.

Kross, S.M. 2012. Annual report from the Marlborough Falcon Conservation Trust to the New Zealand Department of Conservation.

Kross, S.M. 2011. Marlborough Falcon Conservation Trust New Zealand Falcon (*Falco novaeseelandiae*) Husbandry Manual. Report to the New Zealand Department of Conservation.

Recent Popular Media

KCRA News, Sacramento. September 22, 2016. Science, drinks mix during monthly Sacramento events.

CBS 13 News, Sacramento. September 7, 2016. How will the Golden 1 Center keep birds out?

National Geographic Voices. October 6, 2015. *The microbeads dilemma: Does your facewash harm wildlife?* Over 2,700 social media engagements as of October 13, 2015. http://voices.nationalgeographic.com/2015/10/06/the-microbeads-dilemma-does-your-facewash-harm-wildlife/

The Conversation. June 4, 2015. *Tiny beads, big problem, easy fix: why scientific evidence supports a ban on microbeads***.** http://theconversation.com/tiny-beads-big-problem-easy-fix-why-scientific-evidence-supports-a-ban-on-microbeads-42511

Current Research

Quantifying the frequency and effects of secondary exposure to rodenticides in barn owls, with links to IPM.

Project currently in development with researchers at UC Davis to understand how often barn owl chicks are exposed to anticoagulant rodenticides and to quantify the physiological effects of exposure on chick growth and development. This project has been invited for a full proposal to the Western SARE grant from the USDA, and my role in the project can continue from the East Coast.

Artificial raptor perches on Western cattle ranches: testing construction and perch use.

USDA-funded project to design, construct, and install artificial raptor perches on a California ranch where, like many ranches, the soil is too rocky to dig holes to anchor poles. Twelve months of remote monitoring will determine if raptors use the perches, if they prefer specific designs, and if they use perches more in certain habitats.

Understanding the implications for transitioning from flood-irrigation to drip-irrigation in alfalfa for avian diversity, rodent- pest control services, and groundwater recharge

In collaboration with the Migratory Bird Partnership; conducting field observations with undergraduate researchers to determine if switching to buried drip irrigation has implications for biodiversity and ecosystem services. My students and I are focusing on quantifying the pest control services that carnivorous birds provide to farmers when they capture rodents during flood irrigation.

Addressing the strengths and weaknesses of diversified farming systems as a biodiversity conservation strategy: a path forward

Writing a review and synthesis article about the results of a SWOT (strengths, weaknesses, opportunities, threats) analysis of the viability of diversified farming systems as a strategy for biodiversity conservation. In collaboration with a team of international agroecologists, conservation biologists and NGOs. Also, participating on the scientific advisory board for a *Conservation Evidence* project on this topic with Cambridge University and The Nature Conservancy.

Teaching Experience

2017 Conservation & Society. Spring semester (3 units) 35 students. Fall Semester (3 units) 35 students.

2017 Urban Agriculture and Aquaponics. Spring semester (3 units) 22 students.

2017 Senior Thesis. Spring semester (10 students), Fall Semester (8 students). Advising and overseeing senior theses.

2016/2017 Introduction to Environmental Science. Fall 2016 (4.5 units) 86 students. Spring 2017 (3 units) 40 students. Fall 2017 (3 units) 40 students.

2016 Environmental Studies Seminar. Fall semester (1 unit) 34 students.

2015/2016 Introduction to Wildlife Ecology and Conservation. Guest Lecture: "Where the wild things are, and where we'd like them to be" (Human-Wildlife Conflict). University of California, Davis.

2015 Ecological Intensification. Course Co-developer and Coordinator. Coordinated speakers, assignments and grading for a graduate-level course. University of California, Davis.

2015 Pitch Perfect: How to communicate your research to the media. Workshop Developer and Coordinator- teaching graduate students about how to speak without using jargon, the importance of relating to people, and understanding their audience.

2015 Introduction to Outreach Workshop. Davis Chapter of the Society for Conservation Biology. Coordinated and helped to deliver a 2-hour workshop for graduate students on the basics of developing a lesson plan for science outreach.

2014 Biodiversity & Agroecology. University of California, Davis. Course Developer and Coordinator. Coordinated speakers, assignments and grading for a mixed-level class that comprised of freshmen, upper-level undergraduates, and graduate students.

2014 Wetland and waterbird conservation issues in California. University of California, Davis. Guest lecture. *Ecosystem services from birds.*

2012 & 2013 Lincoln University Graduate Viticulture course. Blenheim, New Zealand. Returning Guest lecturer. *Control of pest birds in vineyards*.

2011 Sustaining native biodiversity in primary production systems. University of Canterbury (FORE 444 /BIOL 379). Lecturer on this senior-level course, 4-lecture series and two field trips on interactions between agriculture and wildlife covering topics including agricultural inputs, habitat fragmentation, meta-population theory, island biogeography, functional ecology, and biological pest control. Graded relevant exam questions.

2011 Principles of Animal Behaviour. University of Canterbury (BIOL 272). Tutorial developer and coordinator. Approx. 100 students. Developed the syllabus for, coordinated, and delivered innovative tutorials designed to familiarize undergraduate students with primary scientific literature through new interactive pedagogy and technology. As coordinator, duties included teaching students how to prepare multimedia presentations, facilitating online submission, assisting students with problems, and communicating with the course coordinator. Graded assignments and exams.

2011 Wartburg College, Iowa. Field course for senior students. Designed and taught a 3-day field-course on New Zealand ecology, the New Zealand falcon, and biological pest control. Students observed falcons and birds in vineyards, collected data, toured a winery and interviewed vineyard managers, followed by instruction in data analysis and multimedia preparation.

2009 Diversity of Life. University of Canterbury (BIOL 113). Teaching assistant.

Teacher Training

Faculty Learning Community: Service Learning for beginners. 2017.

Student, Classroom, Instructor: Strategies for aligning teaching with learning. 2015. Seminar on current teaching methodologies, including use of technology, education equity, lesson planning and aligning assessments and activities with objectives.

Professors For the Future. 2014-2015. Selected as one of three postdoctoral fellows to take part in a professional development fellowship at UC Davis.

Seminar on College Teaching. 2014. Audited pedagogy course on teaching philosophy and methodology for higher education.

Relevant Employment

New Zealand Institute of Plant and Food Research. 2012-2013. Senior Research Associate, Marlborough Wine Research Centre. Managed a project to test a commercial bird deterrent system on both the North and South Islands in Chardonnay and Merlot blocks. Project results are embargoed by the commercialization company.

Brancott Estate Winery. 2012. Research Associate. Assisted with a project to extract and measure volatile thiols from grape juice, fermenting juice, and final wines to test for effects of terroir, picking methods, and fermentation conditions in Sauvignon Blanc.

Marlborough Falcon Conservation Trust. 2008-2013. Co-founder, Trustee and Programme Manager. Responsible for overseeing staff and running the volunteer program. Also responsible for permitting, record keeping, overseeing falcon care, grant writing, management plans, and community education and outreach. Acted as a spokesperson, with duties including hosting donors, and educating groups including primary, secondary and university students to community groups and industry practitioners.

Marlborough Falcon Conservation Trust. 2013-Present. Trustee and Scientific Advisor. Continued presence as a board member of the MFCT including advising on ongoing scientific work and education/ outreach initiatives.

Landcare Research. 2007. Field Assistant. Field study to assess invasive bird use of seed-crop fields in the Canterbury Plains and potential for carrying food-borne diseases. Duties included: mist-netting introduced and native birds, banding, drawing blood samples, cloacal swabs, radiotracking and mapping field use.

Awards, Grants and Fundraising Total: >$880,000 USD awarded

California Department of Food and Agriculture Vertebrate Pest Control Research Advisory Committee Grant. $43,883 *Investigation of the interactions between rodenticide secondary exposure and barn owls in effective control of vertebrate pest populations.* Co-Investigator with Josh Hull, Emily Phillips, and Roger Baldwin. *Awarded.*

National Institute of Food and Agriculture (USDA) Western Sustainable Research and Education (SARE) Grants. $250,000. *Quantifying the frequency and effects of secondary exposure to rodenticides in barn owls.* Principle Investigator. *Invited for full-proposal.*

United States- Israel Binational Agricultural Research and Development Fund (BARD) Workshop grant: *Use of barn owls for agricultural pest control*. $38,400. Co-Investigator with Motti Charter, Matt Johnson, Ran Nathan, and Roger Baldwin. *Awarded.*

California State University, SSIS New Faculty Fellowship $5,000. *Awarded.*

California State University, SSIS Travel Grant $1800 *Awarded.*

Campus Grants Program: University Enterprises Inc, Sacramento State University. 2017. $2,220. For equipment to build barn owl boxes on the CSUS campus for student research on pest control. Principle Investigator. *Awarded.*

California Natural Resources Conservation Service (USDA): Conservation Innovation Grant. 2017-2018. $56,944 (with $57,280 match funding from the Nature Conservancy and California State University, Sacramento). *Testing the efficacy, costs and durability of modifying wood fence corner posts to provide raptor perches for raptor conservation and rodent-pest control in four key rangeland habitats.* Principle Investigator. *Awarded.*

California Department of Food and Agriculture: Vertebrate Pest Control Research Advisory Committee. 2015-2016. $76,908 *Encouraging owl predation of rodents by erecting owl boxes: myth of potential management strategy.* Co-PI with Roger Baldwin. *Awarded.*

Selma Herr Fund for Ornithological Research. $1,564. *Measuring the capability of insectivorous birds to control pest insect outbreaks in a Yolo county vineyard*. 2015-2016. Principle Investigator. *Awarded.*

David H. Smith Conservation Research Fellowship. 2013-2015. $145,000 plus training. *Awarded.*

Center for Produce Safety. 2014-2015. $49,336 *Evaluation of falconry as an economically viable co-management strategy to deter nuisance birds in leafy green fields*. Co- Investigator with Michele Jay-Russell. *Awarded.*

Professors for the Future, UC Davis. 2014- 2015. $3,000 plus career development training. *Awarded.*

Invisi-Shield Inc. & EverEdge IP. 2012-2013. Amount confidential.

University of Canterbury Doctoral Scholarship 2008-2011. NZD $20,000 per annum *Awarded.*

Brian Mason Scientific and Technical Trust. Grant. 2009-2010. NZD $15,000 *Awarded.*

Canon New Zealand Environmental Grant. 2008. NZD $5,000 for field equipment *Awarded.*

Montana Winery New Zealand. Donation. 2008. NZD $2,000 for radiotracking equipment *Awarded.*

Pernod Ricard Living Land Trust. 2012-current. NZD >$500,000 sponsorship for MFCT *Awarded.*

Canterbury Community Trust. 2012. NZD $3,000 for educational materials for MFCT *Awarded.*

Marlborough District Council. 2012. NZD $2,000 for CCTV equipment for MFCT *Awarded.*

Mazda Foundation Trust. 2013. NZD $2,500 for aviary and training equipment for MFCT *Awarded.*

Trustpower Community Awards. 2012. NZD $1,000 award for MFCT *Awarded.*

Service, Outreach & Professional Development

International Congress for Conservation Biology. 2016-2017. Scientific committee member.

CAPCA Ed: California Association of Pest Control Advisors. 2014-2016. Regular speaker on the benefits of birds in vineyards/ row crop farms and how to encourage raptors to farms for natural pest control. Sacramento, Napa and Lodi, California.

Sacramento Science Distilled. 2016. *Wine, Walnuts & Wildlife.* Featured speaker at the inaugural Science Café for Sacramento. ScienceCafes are an international effort to bring scientific discussions into social, informal, public spaces. See sciencecafes.org for more information.

Liceo Cientifico, Provincia Hermanas Mirabal, Dominican Republic. 2015. Lesson on 'Why farmers need biodiversity' for a high school level English class at a science academy.

ScienceCafe. 2015. Davis, California. *Winemaker's Wingmen.* ScienceCafes are an international effort to bring scientific discussions into social, informal, public spaces. See sciencecafes.org for more information.

Society for Conservation Biology, Davis Chapter. 2014-2015. Co-chair of the Education and Outreach committee.

Bird Education Alliance for Conservation. 2014-2016. Member-at-Large on the Executive Committee, a Partners in Flight working group.

North American Bird Conservation Initiative (NABCI). 2015. Member of the Communications team for this International, federally run, bird conservation group.

Marlborough Falcon Conservation Trust Schools Programme. 2009-2013. Designed a primary school education curriculum that I delivered annually along with the New Zealand Department of Conservation. Over 2,000 kids in our region learned about, and got to 'meet', a New Zealand falcon. This program is still ongoing and very successful.

Selected Conferences and Invited Seminars

2017 Association for Environmental Studies and Sciences. Tuscon, Arizona. *Kiwis love falcons: a case-study in successful community led conservation*.

2017 California Department of Conservation. Sacramento, CA. Invited seminar.

2016 North American Ornithological Conference. Washington, DC. *Vertebrate Pest Control Services from raptors*. Invited speaker for symposium: "Bird Ecosystem Services: New Approaches and Future Directions"

2016 North American Congress for Conservation Biology. Madison, WI. *Farmers and birds benefit from increasing habitat complexity on farms*. Poster.

2016 UC Davis Animal Behavior Graduate Group. Invited Seminar. *Using behavioral ecology to inform conservation management of a threatened falcon species*

2016 Vertebrate Pest Conference. Newport Beach, California (March). Two presentations: "*Gopherbusters? A review of the candidacy of barn owls as the ultimate natural pest control option*" and "*Insect pest control and bird damage as a function of distance from riparian habitat in a California vineyard*"

2015 Raptor Research Conference. Sacramento, California. Invited speaker for symposium: Ecology of Island Raptors.

2015 27th International Congress for Conservation Biology. Montpelier, France. 2015.

Organizer of round-table session entitled *Risk & Reward: Learning from past mistakes to achieve conservation success.*

Co-lead on symposium entitled *Sustainability in Agricultural landscapes: linking biodiversity to agricultural practices and policy.*

Co-lead and facilitator of a half-day workshop to conduct a SWOT analysis of the viability of diversified farming systems as a biodiversity conservation strategy.

Oral presentation as part of the Agroecology session.

2015 International Global Challenges University Alliance Workshop: Why Wildlife? Global Opportunities and Challenges. Participant representing UC Davis. Uppsala, Sweden.

2015 California Cooperative Extension: Benefits of Hedgerows Workshop. Napa, California.

2014 Humboldt State University, Invited Seminar, Wildlife Department Seminar Series. Arcata, California.

2014 Ecological Society of America. Sacramento, California.

2014 North American Congress of Conservation Biology. Missoula, Montana.

2014 Sacramento State University/ United States Geological Survey. Guest Lecture in a Colloquium hosted by Sacramento State, USGS, US Fish & Wildlife Service and the California Landscape Conservation Cooperative.

2013 Princeton University. Princeton, New Jersey. Wilcove Lab. Invited Seminar.

2013 Cornell University. Ithaca, New York. Entomology Seminar.

2012 Marlborough Wine Research Centre. Blenheim, New Zealand. Invited Seminar.

2011 Society for Conservation Biology, 25th International Congress for Conservation Biology. Auckland, New Zealand. Oral presentation. Student awards finalist.

2011 'Planning & Monitoring Effectiveness of Conservation Projects' short course at the ICCB. Auckland, NZ.

2010 Ecological Society of America, Annual Conference. Pittsburgh, USA.

2010 Romeo Bragato Viticulture & Oenology conference. Blenheim, New Zealand. Selected student finalist.

2010 International Society for Behavioural Ecology, 13th Congress. Perth, Australia.

2009 Australasian Society for the Study of Animal Behaviour. Albany, New Zealand. Poster. Awarded best poster presentation by a student.

Students

Angela Haas (2017-2018) Masters student: Assessing effects of suburban homogenization on bird communities. Co-advised with Jamie Kneitel (Sacramento State).
Emily Phillips (2017-2019) Masters student: Rodenticide exposure and its effects on barn owls. Co-advised with Josh Hull (UC Davis).
Renata Chapman (2017) Undergraduate Senior Thesis: Summer-Fall raptor use of artificial perches (Sacramento State)
Quratulain (Annie) Ahmed (2017) Undergraduate Senior Thesis: Assessing Bird Diversity and Ecosystem Services in Spring Flooded Alfalfa Fields (Sacramento State)

Emily Wong- Undergraduate Thesis: Raptor perch use (2016), currently works for Arizona Department of Fish & Game. Thesis in revision at *Journal of Raptor Research*. (UC Davis)
Breanna Martinico- Undergraduate Thesis: Roadside raptor transects (2015), currently masters student at UC Davis
Ryan Bourbour- Undergraduate Thesis: Barn owl diet (2015), currently masters student at UC Davis. Thesis published in *Agriculture Ecosystems & Environment* (UC Davis)
An additional 13 undergraduate students have participated in semester-long fieldwork internships with me.

Distinctions

Awarded a 2015 'Inspirational Alumni' award by the School of Biological Sciences at the University of Canterbury.

Selected to present research to the Prime Minister of New Zealand, John Key, at the opening of the new Biological Sciences building at the University of Canterbury, 2010.

Awarded the 2012 'Best paper by a PhD student' award by the School of Biological Sciences at the University of Canterbury.

Granted the 2011 Raptor Association of New Zealand 'Kestrel' award for excellence in contribution and involvement in raptor research.

Runner-up in University of Canterbury's 'PhD in 3' 2010 speaking competition (NZD 3,000); winner of 'Biology' heat and runner-up in 'Science' heat.

Other Skills

Reviewer	Agriculture Ecosystems & Environment, Animal Behaviour, Austral Ecology, Biological Conservation, Bird Study, Crop Protection, Current Zoology, Ecology, Ecology Letters, Emu, Global Ecology and Conservation, Limnology and Oceanography, Methods in Ecology and Evolution, Notornis, New Zealand Journal of Ecology, New Zealand Journal of Zoology, PLoS, Journal of Raptor Research, Southeastern Naturalist, Western Birds. Conference reviewer for: NACCB 2014, NACCB 2016, ICCB 2017. Proposal reviewer for: David H. Smith Conservation Research Fellowship (2016, 2017, 2018).
Media	Active outreach through social media including twitter (@wildfarms) and the *WildFarms* blog, media and communications training for graduate students.
Fieldwork	Radio telemetry, mist-netting, passerine banding and records, raptor handling, remote videography, crop damage assessments, bird count methods.
Labwork	Dissection and identification experience, capillary electrophoresis, assays, spectrophotometry, column prep and use for extractions.
Computing	Statistical packages (R), graphics and imaging software (Photoshop, Illustrator), Mapping software (ArcGIS, Google Earth), website development, databases.
Activities	Soccer, swimming, SCUBA, photography, cooking, gardening, hiking and camping.