



SJDAWC

SIR JAMES DUNN ANIMAL WELFARE CENTRE *at the Atlantic Veterinary College*



PROMOTING ANIMAL WELFARE THROUGH RESEARCH, SERVICE, AND EDUCATION

2022 ANNUAL REPORT

ATLANTIC VETERINARY COLLEGE
UNIVERSITY OF PRINCE EDWARD ISLAND
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Sir James Dunn Animal Welfare Centre, Atlantic Veterinary College, University of Prince Edward Island

MANDATE

The Sir James Dunn Animal Welfare Centre (SJDAWC) exists to promote animal welfare by generating and disseminating impartial and scientifically based knowledge and understanding of animal welfare issues. Our vision is “to be nationally and internationally recognized as a centre of excellence that advances animal welfare through research, service, and education.”

STRUCTURE

The SJDAWC is governed by a management board that reports to the Dean of the Atlantic Veterinary College (AVC) at the University of Prince Edward Island (UPEI).

MANAGEMENT BOARD

- » DR. JOHN VANLEEUWEN, Interim Dean, AVC, Management Board Chair (ex-officio)
- » DR. KATY PROUDFOOT, Director, SJDAWC (ex-officio)
- » DR. MICHAEL COCKRAM, Chair in Animal Welfare (ex-officio)
- » MS. RACHEL CUTCLIFFE, AVC External Engagement Officer (ex-officio)
- » MS. SHERRI PINEAU, Administrative Assistant, SJDAWC (ex-officio)
- » DEPARTMENTAL REPRESENTATIVES
 - » DR. TAMMY MUIRHEAD, Department of Biomedical Sciences, replaced Dr. Sunny Hartwig in July 2022
 - » DR. JENNIFER BURNS, Department of Health Management
 - » DR. CATE CREIGHTON, Department of Companion Animals, replaced Dr. Oriana Raab in September 2022
 - » DR. RUSSELL FRASER, Department of Pathology and Microbiology
- » DR. CAROLYN SANFORD, Assistant Deputy Minister, Agriculture and Land, Government of Prince Edward Island, external veterinarian representative
- » MR. RON MAYNARD, external community representative
- » MS. TESSA MCBURNEY, student representative, replaced Mr. Logan Bigelow in June 2022

SJDAWC ACTIVITIES IN 2022

AVC Webinar Series (March)

The SJDAWC hosted a three-part webinar series focusing on animal welfare concerns with dog breeding. The webinars featured Drs. Brenda Bonnett, Candace Croney, and Rowena Packer and covered current methods for assessing the welfare of dogs kept in breeding kennels, as well as the impact of breeding for certain traits, such as conformations that result in brachycephaly, on the welfare of dogs. The series included national and international perspectives on the steps that veterinarians can take to help improve the welfare of dogs worldwide.

These webinars were made available on our YouTube channel in September 2022: <http://upepei.ca/youtube/awc>

17th annual Animal Welfare in Practice Symposium (October)

The 17th annual symposium, presented virtually on October 28 and 29, 2022, highlighted research on the welfare of reptiles and amphibians. The symposium began with an evening public presentation entitled “Cold-blooded care: Understanding the needs of captive reptiles” by Dr. Anna Wilkinson, professor of cognition, University of Lincoln, United Kingdom.

On Saturday, Dr. Wilkinson started off with a more detailed discussion on cold-blooded cognition. The symposium continued with the following speakers and topics:

- » “Pathogens, pet-trade, and policy: Reptile and amphibian welfare in the UK,” featuring Dr. Jon Bielby, Liverpool John Moores University
- » “Pathology of diseases in reptiles and amphibians,” featuring Dr. Shannon Martinson, AVC at UPEI
- » “Assessing reptile welfare in clinical practice,” featuring Dr. Lara Cusack, AVC at UPEI
- » “Resources for veterinary students on learning more about how to approach reptiles and amphibian cases,” featuring Paige Mitchell, doctor of veterinary medicine student, AVC at UPEI

The symposium was co-hosted by the SJDAWC and the AVC Animal Welfare Club with support from the Animal Welfare Foundation of Canada. Information about the speakers may be found at <https://awc.upei.ca/animal-welfare-in-practice/>.

GRANTS AWARDED

Through an annual competition and other sources, the SJDAWC provides funding for service and research projects.

SERVICE

Service grants awarded in 2022

GUNN MCQUILLAN H, FOLEY P, MACDONALD R, MACLEAN R, MACLEAN M. Medical and Surgical Care of Homeless Animals (2022–23), with the PEI Humane Society (PEIHS)

Ongoing or recently completed service projects

CAREY AM, NEWELL C. AVC humane dog training program, with the PEI Humane Society (PEIHS)

FOLEY P. Financial aid for spay or neuter of companion animals of owners on fixed income, with SpayAid PEI

FOLEY P. Neutering feral cats on PEI

MUIRHEAD T, MACMILLAN K. Health management services for Handibear Hills Equine Sanctuary, Inc.

VANLEEUVEN J, HOPSON M, GILROY C, TUMA M, KUTZ S. Improving animal health and welfare of pets in remote northern Canadian communities (2021)

GUNN MCQUILLAN H, MACLEAN R. Pegasus Helping Hand Fund

HOPSON M, GILROY C, LANDRY S. Chinook Project (funded independently since 2011)

Please visit awc.upei.ca/service-projects/ for more information about these and other service projects.

RESEARCH

Research grants awarded in 2022

OVERALL K, PROUDFOOT K, MONTELPARE B, MARTIN C. Effects of early life experiences on later problematic behaviours in homeless, rescue shelter kittens (2022–2025)

BERNARD P, SPEARS J. The effects of rearing in a shelved environment on behavioral and physiological markers of welfare (2022–2023)

Ongoing or recently completed research projects

BERNARD P, SPEARS J, BIGELOW L. Identifying optimal experimenter handling and familiarization protocols that can be universally implemented to improve lab animal welfare

OVERALL K, MONTELPARE W, PROUDFOOT K, SQUAIR C. Effects of veterinary handling on canine behaviour and physiology: Must we scare dogs? (2021–2024)

RITTER C, PROUDFOOT K, MACMILLAN K, ELSOHABY I, MCKENNA S. Assessment and improvement of horse welfare on Prince Edward Island through benchmarking and a better understanding of horse caretakers' decision-making (2021–2024)

MELLISH M. Pilot project: Working donkey welfare assessment and owner education in Meru County, Kenya

PROUDFOOT K, MCKENNA S, MEAGHER R, GORDON M. Understanding the natural behaviour and stress response of newborn dairy calves

VANLEEUVEN J, HEIDER L, KEEFE G, MCKENNA S, MUCKLE A, KARIUKI E, GITAU G. Prevention of bovine mastitis through a combination of cow comfort mastitis intervention on smallholder dairy farms in Kenya

BERNARD P. Ultrasonic vocalizations: A non-invasive ethologically relevant tool to assess home cage welfare in rats

STOUGHTON WB, BRESSAN N. Development of an equine nasogastric intubation simulator as an aid or alternative to the use of animals in teaching

MELLISH M, PUCHALSKI S, LUCAS Z, DAOUST P-Y, STULL J. Assessment of welfare of Sable Island horses through morphometric and radiographic hoof evaluation

Please visit awc.upei.ca/research-projects/ for more information about these and other research projects.

INTEGRATED

Integrated grants awarded in 2022

CUSACK L, PROUDFOOT K, VANLEEUWEN C.

The impact of volunteering with a wildlife service on empathy in veterinary students (2022–2024)

Please visit awc.upei.ca/research-projects/ for more information about this integrated project.

GRADUATE STUDENTS FUNDED OR PARTIALLY FUNDED BY THE SJDAWC

Current students

LOGAN BIGELOW, doctor of philosophy (PhD) student, Ultrasonic vocalizations analysis: A non-invasive ethologically relevant tool to assess home cage welfare in rats (with Dr. Paul Bernard)

MARIANA FONSECA, PhD student, Assessment of antimicrobial stewardship on animal welfare, animal health, and antimicrobial resistance on dairy farms (with Drs. Javier Sanchez and Luke Heider)

MEGAN JEWELL, PhD student, Achieving meaningful improvements in dairy cow welfare by reducing lameness: Evaluating the effectiveness of herd performance benchmarking and integrated, web-based risk management (with Dr. Greg Keefe)

MOLLY MILLS, master of science (MSc) student and resident, Improving horse welfare on Prince Edward Island through assessment and benchmarking (with Dr. Kathleen MacMillan)

HANNAH SPITZER, MSc student, Understanding the natural behaviour and stress response of newborn dairy calves (with Dr. Katy Proudfoot)

CAMILLE SQUAIR, MSc student and resident, Effects of veterinary handling on canine behaviour and physiology: Must we scare dogs? (with Drs. Karen Overall and Katy Proudfoot)

MEGAN ROSS, MSc student, Assessment and improvement of horse welfare on Prince Edward Island through benchmarking and a better understanding of horse caretakers' decision-making (with Drs. Caroline Ritter and Katy Proudfoot)

JENNIFER VERNICK, MSc student, Effects of early life experiences on later problematic behaviours in homeless, rescue shelter kittens (with Dr. Overall)

EXTERNALLY FUNDED RESEARCH

COCKRAM M, STRYHN H, BUCZINSKI S. 2022. Health and welfare implications of offering milk replacer, a high energy glucose-electrolyte solution and a novel whey-milk based liquid feed to young calves after long journeys. *Les Producteurs de Bovins du Québec*.

PUBLICATIONS

BIGELOW L, COHEN A, PIMM R, KNIGHT J, BERNARD B. 2022. Ultrasonic vocalization analysis as a novel metric to assess cage enrichment in rats. *Journal of the American Association for Laboratory Animal Science*. <https://doi.org/10.30802/AALAS-JAALAS-21-000024>

BIGELOW L, POPE E, MACDONALD D, ROCK J, BERNARD P. 2022. Getting a handle on rat familiarization: The impact of handling protocols on classic tests of stress in *Rattus norvegicus*. *Laboratory Animal*. <https://doi.org/10.1177/00236772221142>

COCKRAM M. 2022. Transportation. In: *Routledge Handbook of Animal Welfare*, 1st Edition. Edited by A. Knight, C. Phillips and P. Spark. Routledge, Abington, UK. 128-142. <https://doi.org/10.4324/9781003182351>

COCKRAM M, VELARDE A. 2022. Sheep. In: *Preslaughter Handling and Slaughter of Meat Animals*. Edited by L. Faucitano. Wageningen Academic Publishers, Wageningen, The Netherlands. 267-310.

COCKRAM M. 2022. Cattle handling stress and transportation. In: *Reference Module in Food Science Elsevier*. <https://doi.org/10.1016/B978-0-323-85125-1.00033-8>

CREUTZINGER K, BROADFOOT K, GOETZ H, PROUDFOOT K, COSTA J, MEAGHER R, RENAUD D. 2022. Assessing dairy calf response to long-distance transportation using conditioned place aversion. *JDS Communications*. 3:275-279. <https://doi.org/10.3168/jdsc.2022-0209>

CREUTZINGER K, PEMPEK J, LOCKE S, RENAUD D, PROUDFOOT K, GEORGE K, WILSON D, HABING G. 2022. Dairy producer perceptions toward male dairy calves in the Midwestern United States. *Frontiers in Animal Science*. 132. <https://doi.org/10.3389/fanim.2022.1000897>

MUÑOZ-VARGAS L, PEMPEK J, PROUDFOOT K, EASTRIDGE M, RAJALA-SCHULTZ P, WITTUM T, HABING G. 2022. The impact of overstocking and negative energy balance on quantitative measurement of non-typhoidal Salmonella in periparturient dairy cattle. *Frontiers in Veterinary Science*. 121. <https://doi.org/10.3389/fvets.2022.779900>

KARIUKI E, VANLEEUWEN J, GITAU G, MCKENNA S, HEIDER L, KEEFE G, KATHAMBI E. 2022. Cross-sectional study of cow comfort and management factors associated with subclinical mastitis in smallholder dairy farms in Kenya. *East African Journal of Science, Technology and Innovation*. 3. <https://doi.org/10.37425/eajsti.v3i3.448>

PROUDFOOT K, HUZZEY J. 2022. A first time for everything: the influence of parity on the behavior of transition dairy cows. *JDS Communications*. 3:467-471. <https://doi.org/10.3168/jdsc.2022-0290>

PROUDFOOT K, HENDRICKS J, HIGGINS A, ROCHE S, RITTER C, RENAUD D, VON KEYSERLINGK M. 2022. The Entrepreneurs: Dairy farmer perspectives on finding an industry solution for the surplus calf issue—A participatory case study. *Frontiers in Sustainable Food Systems*. 6. <https://doi.org/10.3389/fsufs.2022.961068>

SPITZER H, MEAGHER R, PROUDFOOT K. 2022. The impact of providing hiding spaces to farmed animals: A scoping review. *PLOS ONE*, 17, e0277665. <https://doi.org/10.1371/journal.pone.0277665>

SEELEY K, PROUDFOOT K, EDES A. 2022. The application of allostasis and allostatic load in animal species: A scoping review. *PLOS ONE*, 17, e0273838. <https://doi.org/10.1371/journal.pone.0273838>

PRESENTATIONS

COMEAU N, TERNMAN E, MCKENNA S, SPITZER H, PROUDFOOT K. 2022. Pilot study: heart rate and muscle activity as an indicator of sleep in dairy cattle. 2022 National Veterinary Scholars Symposium. Minneapolis, USA.

FONSECA M, RITTER C, PROUDFOOT K, HEIDER L, SANCHEZ J. 2022. Describing dairy producers' s perceptions towards antimicrobial use and animal welfare in Atlantic Canada. 16th International Symposium of Veterinary Epidemiology and Economics. Halifax, Canada.

FORBES B, SPITZER H, MEAGHER R, GORDON M, ROSE S, PROUDFOOT K. 2022. Assessing the impact of a hiding space on the behaviour and stress response of newborn dairy calves. 2022 National Veterinary Scholars Symposium. Minneapolis, USA.

FORBES B, SPITZER H, MEAGHER R, GORDON M, ROSE S, PROUDFOOT K. 2022. Assessing the impact of a hiding space on the behaviour and stress response of newborn dairy calves. 2022 Canadian Emerging Veterinary Scholars Summit (CEVSS). Calgary, Canada.

KARIUKI E, VANLEEUWEN J, GITAU G. 2022. Assessment of compliance with impact of cow comfort recommendations in smallholder dairy farms in Kenya. Kenyan Veterinary Association 2022 Conference. Naivasha, Kenya.

KARIUKI E, VANLEEUWEN J, GITAU G, HEIDER L, MCKENNA S, KEEFE G, KATHAMBI E. 2022. Cross-sectional study of cow comfort management factors and outcomes in smallholder dairy farms in Kenya. 16th International Symposium of Veterinary Epidemiology and Economics. Halifax, Canada.

MAGGARD H, MORAN M, HABING G, RENAUD D, PROUDFOOT K, WILSON D, PEMPEK J. 2022. Condition of surplus dairy calves at livestock dealers in Ohio: A cross-sectional study. American Dairy Science Association Annual Meeting. *J. Dairy Sci.* Vol. 105, Suppl. 1. Page 231.

PROUDFOOT K, HUZZEY J. 2022. A first time for everything: The influence of parity on the behavior of transition dairy cows. American Dairy Science Association Annual Meeting. Kansas City, USA.

PROUDFOOT, K. 2022. Maternity pen design and the early calf environment. Vetoquinol Applied Research for Cattle meeting. Toronto, Canada.

PROUDFOOT, K. 2022. Mitigating stressors in the close-up pen. Vetoquinol Applied Research for Cattle meeting. Toronto, Canada.

PROUDFOOT, K. 2022. ADSA Foundation Scholar Award: The welfare of transition dairy cows: Current research and future directions. American Dairy Science Association Annual Meeting. Kansas City, USA.

PROUDFOOT, K. 2022. The role of natural behavior in the welfare of transition dairy cows. Pennsylvania State University. State College, USA (virtual).

PROUDFOOT, K. 2022. The welfare of shelter cats. Shelter Animal Club at the Atlantic Veterinary College. Charlottetown, Canada.

PROUDFOOT, K. 2022. Dairy cow welfare assessment. Veterinary Animal Welfare Club at the Atlantic Veterinary College. Charlottetown, Canada.

PROUDFOOT, K. 2022. Dairy cow maternal behaviour and maternity pen design. Bovine Club at the Atlantic Veterinary College. Charlottetown, Canada.

ROSS M, PROUDFOOT K, MERKIES K, ELSOHABY I, MILLS M, MACMILLAN K, MCKENNA S, RITTER C. 2022. Understanding the human dimension of horse care on Prince Edward Island. University of Prince Edward Island Graduate Studies and Research Conference. Charlottetown, Canada.

ROSS M, PROUDFOOT K, MERKIES K, ELSOHABY I, MILLS M, MACMILLAN K, MCKENNA S, RITTER C. 2022. Horse caretakers' attitudes and perceptions toward horse care on Prince Edward Island. Page 176. in Proc. Conference of the International Society for Anthrozoology. Boise, USA. (Virtual).

SPITZER H, MEAGHER R, PROUDFOOT K. 2022. The impact of providing hiding places to farmed animals: A scoping review. North American Regional Meeting of the International Society for Applied Ethology, Davis, USA.

SPITZER H, MEAGHER R, ROSE S, GORDON M, MCKENNA S, PROUDFOOT K. 2022. The impact of a hiding space on the sleep-like behaviour of newborn dairy calves. University of Prince Edward Island Graduate Studies and Research Conference. Charlottetown, Canada.

SQUAIR C, PROUDFOOT K, MONTELPARE W, OVERALL K. 2022. Effects of veterinary handling on canine behaviour and physiology: Must we scare dogs? Veterinary Behavior Symposium. Austin, USA.

SQUAIR C, PROUDFOOT K, MONTELPARE W, OVERALL K. 2022. Effects of veterinary handling on canine behaviour and physiology: Must we scare dogs? University of Prince Edward Island Graduate Studies and Research Conference. Charlottetown, Canada.

VENTURA B, PROUDFOOT K. 2022. Teaching applied ethology and animal welfare: How to build a community of practice. Workshop at the 2022 International Society of Applied Ethology Annual Meeting.

EDUCATION

COCKRAM M. Animal welfare course for students studying for master of arts in animal welfare, ethics, and the law, University of Athens, Greece

COCKRAM M, PROUDFOOT K. Coaches for the AVC student team in the veterinary division of the 2022 Annual Animal Welfare Assessment Contest, North Carolina State University, Raleigh, NC. November 2022.

COCKRAM M. Course organizer, Department of Health Management graduate student seminars.

COCKRAM M. VHM 8470: Animal Welfare, graduate course at the AVC

COCKRAM M. VHM 1030: Animal Behaviour and Welfare, course for first-year veterinary students at the AVC

COMMITTEE/BOARD MEMBERSHIPS

DR. MICHAEL COCKRAM

- » Member of the National Farm Animal Care Council Code Development Committee for the Code of Practice for the Care and Handling of Farm Animals: Transportation (until August 2022)
- » Member of Board of Directors of the Atlantic Poultry Research Institute (until August 2022)
- » Hearing Expert Member of the European Food Safety Authority, Scientific Panel Animal Health and Welfare, Farm to Fork Working Group on the Transport of Animals (Free Moving Species)
 - » Welfare of cattle during transport. *EFSA Journal*, 20, e07442. <https://doi.org/10.2903/j.efsa.2022.7442>
 - » Welfare of equidae during transport. *EFSA Journal*, 20, e07444. <https://doi.org/10.2903/j.efsa.2022.7444>
 - » Welfare of small ruminants during transport. *EFSA Journal*, 20, e07404. <https://doi.org/10.2903/j.efsa.2022.7404>
 - » Welfare of pigs during transport. *EFSA Journal*, 20, e07445. <https://doi.org/10.2903/j.efsa.2022.7445>
- » Member of Canadian Veterinary Medical Association Animal Welfare Committee and Chair of large animal sub-committee (until March 2022)
- » Section Editor: Welfare and Behaviour for *Animal: The International Journal of Animal Bioscience* and member of the Scientific Board

DR. KATY PROUDFOOT

- » Member of the Animal Welfare Committee at the American Veterinary Medical Association
- » Member of the Council for Agricultural Science and Technology Animal Working Group
- » Section Editor: Health, Behaviour and Well-being, *Journal of Dairy Science*
- » Associate Editor: *Journal of Applied Animal Welfare Science*
- » External Reviewer for the Natural Sciences and Engineering Research Council (NSERC) Discovery Grants Program

AWARDS

- » 2022 Sir James Dunn Animal Welfare Summer Research Award
 - » Brianna Forbes, AVC Class of 2025
 - » Carey Ousley, AVC Class of 2025
- » 2022 Christofor Award in Animal Welfare

- » Nima Morady, AVC Class of 2023
- » 2022 Dr. Tom A. W. Taylor Scholarship
 - » Anam Hamza, AVC Class of 2023

FUNDING

- » Sir James Dunn and Christofor Foundations: founding and sustaining funding
- » Multi-year donors: Fairview Animal Hospital, Glenn Loranger, and Derek Mathers
- » Project funding:
 - » Research support: Veterinarians Without Borders-Canada; Dairy Farmers of Canada
 - » Pegasus feral cat neuter program: Pegasus Family Foundation, an advised fund of the Silicon Valley Community Foundation
 - » Pegasus Helping Hand Fund: Pegasus Family Foundation, an advised fund of the Silicon Valley Community Foundation; Drs. Stephen and Tina McCarthy
 - » Chinook Project: Victoria City Kennel Club
- » Universities Federation of Animal Welfare, UK (student initiatives)
- » Many other generous individual supporters *in memoriam*

CONTACT INFORMATION

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