

Martin Welker

The Pennsylvania State Department of Anthropology
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EDUCATION

- May 2018 Ph. D. in Anthropology, The Pennsylvania State University, State College, PA.
(Expected) Dissertation: Chair: S. B. McClure, PhD.
Dec. 2015 M.A. in Anthropology, The Pennsylvania State University, State College, PA.
Thesis Adviser: S. B. McClure, PhD.
Dec. 2015 Certificate of Online Teaching, The Pennsylvania State University, State College, PA.
May 2013 B.S. *magna cum laude* in Anthropology with Departmental Honors and a Museum
Studies Certificate Utah State University, Logan, UT. Dean's List: Jan. 2010-May 2013.

ACADEMIC EXPERIENCE

- 2016-Present Teaching Assistant (Classroom) – Pennsylvania State University
2014-2016 Teaching Assistant (Distance) – Pennsylvania State University
2013-2014 Teaching Assistant (Classroom) – Pennsylvania State University
2015, 2016 Field Director – Pennsylvania State University Field School at Foster Farm
2014 Research Assistant – Human Geochemistry and Paleoecology Laboratory
2014 Research Assistant – Matson Museum of Anthropology
2012 Program Assistant – Utah State University Museum of Anthropology
2011 Intern – Utah State University Museum of Anthropology

RESEARCH INTERESTS

Human-Environmental Interactions, Niche Construction, Human Behavioral Ecology, Domestication, Animal Husbandry, Colonization Events, Dietary Patterning, Animal Translocation, Breed Selection and Development, Skeletal Morphometrics

GRANTS AND FELLOWSHIPS

- 2016 **M. H. Welker** *Frontier Adaptation and Dietary Patterning Among French and British Colonists in North America (1625-1790)*. Penn State Department of Anthropology Post-Comprehensive Hill Fellowship (\$3000).
2016 **M. H. Welker** *Identifying Environmental and Cultural Influences on Dietary Practices at the Historic Fortress of Louisbourg (1713-1768), Cape Breton, Canada*. Penn State Department of Anthropology Pre-Comprehensive Hill Fellowship Pilot for Dissertation Research (\$1325).
2015 E. Zavodny and **M. H. Welker** *A Pretense of Defense? Hillfort Function in Bronze and Iron Age Lika, Croatia*. The Explorer's Club, Student Grant (\$1000).

PEER REVIEWED PUBLICATIONS (* Student author)

Welker, M.H. and D. A. Byers

(submitted) The Birch Creek Canids and Dogs as Transport Labor in the Intermountain West. *American Antiquity*.

Welker, M. H., S. M. Billings*, J. A. Burns, and S. B. McClure

(submitted) Roads and Military Provisioning During the French and Indian War (1754-1763): The Faunal Remains of Fort Shirley, PA in Context. *Open Quaternary*.

Zavodny, E., S. B. McClure, **M. H. Welker**, B. J. Culleton, J. Balen, and D. J. Kennett

(submitted) Stable Isotope Markers of Herd Management and the Development of Transhumance in Bronze-Iron Age Lika. *Journal of Archaeological Science: Reports*

Martin Welker

McClure, S. B. and **M. H. Welker**

(2017) Farming with Animals: The Cardial Neolithic and the Role of Domesticated Animals in the Western Mediterranean. In *Times of Neolithic Transition along the Western Mediterranean*. Springer Book.

Lambert, P. M. and **M. H. Welker**

(2017) Traumatic Injury Risk and Agricultural Transitions: A View from the American Southeast and Beyond. *American Journal of Physical Anthropology* 162(1): 120-142.

TECHNICAL REPORTS

Welker, M.H.

(In Progress) General Forbes' Cattle: A Report on Cow Bone from Forts Hunter and Loudoun, PA. Report to be submitted to the State Museum of Pennsylvania.

Welker, M. H.

2017 Analysis of Animal Bone from the Jacob Ripley Site (49-DO-95). Report submitted to AllStar Ecology LLC.

Welker, M. H.

2016 Analysis of Two Dogs (*Canis familiaris*) at the Fortress of Louisbourg, Cape Breton, Canada. Report on file at the Fortress of Louisbourg.

Welker, M. H.

2016 Analysis of a Dog (*Canis familiaris*) From the St. Johns River Site, Grenada. Report on file at the Grenada National Museum, St. George's, Granada.

Welker, M. H.

2016 Cahal Pech Plaza B: The Vertebrate Fauna. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2015 Field Season* J. A. Hoggarth and Jaime J. Awe (eds.). Belize Institute of Archaeology, National Institute of Culture and History, Belmopan.

Fowler, B., M. Bloxham, K. Conrad, S. Gasero, S. Shy, **M. Welker**, and B. L. Pitblado.

2011 Southeastern Idaho Northern Utah Paleoindian Project: 2011 Report of Archaeological Fieldwork, Caribou County, Idaho. Archaeological Report Submitted to the Bureau of Land Management-Pocatello Field Office.

PRESENTATIONS (* Student author)

S. B. McClure, E. Podrug, E. Zavodny, C. Ebert, N. Triozzi, **M. H. Welker**, J. Jovic, K. Reed, D. Kennett
2019 *Keeping Herds in Mediterranean Environments: The Example of Neolithic Dalmatia*. 2019 Archaeological Institute of America Annual Meeting, San Diego, California.

S. B. McClure, K. Reed, E. Podrug, E. Zavodny, J. Jovic, **M. H. Welker**, C. Ebert, N. Triozzi, and D. J. Kennett

2018 *The Isotope Ecology of Early Farming on the Northern Dalmatian Coast of Croatia: Integrating Plants, Animals, and Humans in a Neolithic Landscape*. Paper to be presented at the 24th European Association of Archaeologists, Barcelona, Spain.

E. Zavodny, **M. H. Welker**, and S. B. McClure

2018 *A Pawsitively Interesting Prehistory of Dogs Told in Stable Isotopes and Morphometrics From Croatia*. Poster to be presented at the 83 Annual Meeting of the Society for American Archaeology. Washington, DC.

M. H. Welker

2018 *Native American Draught Dogs*. Invited presentation at the Inaugural Penn State Department of Anthropology Grad Student and Post Doc Lightning Talks Colloquium.

M. H. Welker, Billings, S. M.*, J. A. Burns, and S. B. McClure

2017 *Taming the Wilderness: Road Systems and Supply Delivery at French and Indian War Frontier Fortifications*. Penn State Center for Human Ecology invited poster presentation – Opening Event.

Martin Welker

M. H. Welker

2017 *Dead Beasts Tell Tales: Archaeological Approaches to Diet at the Fortress of Louisbourg*. Invited presentation hosted by the St. Francis Xavier University Biology Department, Antigonish, Nova Scotia.

M. H. Welker and R. Duggan

2017 *A Comparison of Dog Shoulder Height in European and Native American Contexts*. Poster presented at the 82nd Society for American Archaeology Annual Meeting, Vancouver, British Columbia.

M. H. Welker

2016 *What Can Animal Bones Tell Us About European Colonists?* Invited presentation to the Penn State Anthropology Club.

M. H. Welker

2016 *Faunal Remains and Food Choice at Historic Fortifications* Poster presented at the 50th Council for Northeast Historical Archaeology meeting, Ottawa, Ontario.

Lambert, P. M. and **M. H. Welker**

2016 *Traumatic Injury Risk with Agriculture: Data from the Southeast and Beyond*. Paper Presented at the 85th Annual Meeting of the American Association of Physical Anthropologists, Atlanta, Georgia.

Billings, S. M.*, **M. H. Welker**, J. A. Burns, and S. B. McClure

2016 *Testing the Efficiency of Supply Routes: Provisioning at British French and Indian War Fortifications*. Poster Presented at the 2016 Undergraduate Research Exhibition, State College Pennsylvania.

Welker, M. H., J. A. Burns, J. H. Haney, and S. B. McClure

2016 *A Database Approach to Historic Military Provisioning in the Eastern United States and Canada*. Paper presented at the 81st Society of American Archaeology Meeting, Orlando, Florida.

Haney, J. H. and **M. H. Welker**

2015 *Subsistence and Site Function in Historic Contexts*. Poster presented at the 80th Society of American Archaeology Annual Meeting, San Francisco, California.

Welker, M. H., J. A. Burns, and S. B. McClure

2015 *Investigating Diet Variability at Early Fortifications in the American Colonies*. Poster presented at the 80th Society of American Archaeology Annual Meeting, San Francisco, California.

Welker, M. H. and P. M. Lambert

2014 *Subsistent and Trauma: The Southeast in Perspective*. Poster presented at the 79th Annual Society of American Archaeology Annual Meeting, Austin, Texas.

Webb, D., **M. Welker**, and C. Kuehn

2013 *Experimental Archaeology and the Costs of Fremont Irrigation*. Guest lecturer at the Range Creek Field Station Faculty Meeting, Salt Lake City, Utah.

2013 *Experimental Archaeology and the Costs of Fremont Irrigation*. Presentation at the Utah Professional Archaeology Council's 2013 Winter Annual Meeting, Logan, Utah.

Webb, D., **M. Welker**, and C. Kuehn

2013 *Experimental Archaeology and the Costs of Fremont Irrigation*. Poster Presented at the National Conference on Undergraduate Research, La Crosse, Wisconsin.

2012 *Experimental Archaeology and the Costs of Fremont Irrigation*. Poster Presented at the 33rd Biennial Great Basin Anthropological Conference, South Lake Tahoe, Nevada.

Patten, J. and **M. Welker**

2012 *The Influence of Economically Important Plants on Historic Shoshone Mobility Strategies*. Poster Presented at the National Conference on Undergraduate Research, Ogden, Utah.

2012 *The Influence of Economically Important Plants on Historic Shoshone Mobility Strategies*. Poster Presented at the Utah State University Undergraduate Research Symposium, Logan, Utah.

2011 *The Influence of Economically Important Plants on Historic Shoshone Mobility Strategies*. Poster Presented at the 10th Biennial Rocky Mountain Anthropology Conference, Missoula, Montana.

COURSES TAUGHT

- ANTH 425: Zooarchaeology – Dr. Sarah McClure (Spring 2016, 2017, 2018)
ANTH146: Native American Indians (Distance) – Dr. Kirk French (Fall 2015)
ANTH 011: Introduction to North American Archaeology (Distance) – Sara Getz, Dr. Jonathan Burns (Fall 2014, Spring 2015)
ANTH 009: Rise of World Civilizations – Dr. Carrie Hritz (Spring 2014)
ANTH 427W: Forensic Archaeology – Dr. Sarah McClure (Fall 2013, 2016, 2017)
ANTH 3250: Human Osteology Tutor – Dr. Patricia Lambert (Spring 2013)

FIELD EXPERIENCE

- 2015, 2016 Field Director – Penn State Archaeological Field School (PI: Claire Milner)
2015 Field Crew – Cueva de les Cocina (PIs: Oreto Garcia & S. B. McClure)
2014 Field Technician (CRM) – Rue Environmental (PI: David Rue)
2013 Volunteer – Butrint, Roman Forum (PIs: D. Hernandez, D. Çondi)
2013 Field Crew – Neolithic Landscapes of Central Dalmatia: Archaeological Survey, Excavation, and Spatial Analysis. (PIs: S. B. McClure & E. Podrug)
2012 Student – Viking Discovery Project (PI: D. Carlson)
2012 Student – Rampart Scotland, Whitecastle (PIs: D. Connolly & M. Cook)
2012 Volunteer – Ground Penetrating Radar Research Project (PI: M. Cannon)
2012-2013 Field Technician (CRM) – USU Archaeological Services (PI: K. Cannon)
2012 Student Researcher – Ancient Native American Irrigation in Central Utah: Experimental Archaeology for Modeling of Fremont Agricultural Economics (PI: S. Simms)
2011 Volunteer – Dot Cave (PI: K. Cannon)
2011 Student – USU Summer 2011 Archaeological Field School (ANTH5300, PI: B. Pitblado)

LABORATORY EXPERIENCE (¹ Dataset curated online or in print)

- Present Forts Loudoun and Hunter Cattle (On Loan from The State Museum of Pennsylvania)
2016 Faunal Analyst – Birch Creek Canids (Idaho)¹
2016 St John’s River Site (Granada) Canid Burial¹
2016-2017 Faunal Analyst – Fortress of Louisbourg, King’s Bastion Faunal Analysis
2015-Present Faunal Analyst – Scare Pond, Massey, and Foster Farmstead Faunal Analysis¹
2015 Faunal Analyst – Cahal Pech Plaza B Faunal Analysis¹
2015-Present Faunal Analyst – Dairying, Transhumance, and Environmental Impact/Resilience: Cultural and Biological Approaches to Domestic Animal Management in Neolithic Dalmatia, Croatia. (PI: S. B. McClure)
2014-2015 Volunteer Lab Assistant – Human Paleoeology and Isotope Geochemistry Lab
2014 Research Assistant – Human Paleoeology and Isotope Geochemistry Lab
2014 Program Assistant – Matson Museum of Anthropology
2013-Present Lab Manager – Penn State Zooarchaeology Laboratory
2013 Co-PI (Honors Thesis) – The Risks of Agriculture: Fracture Trauma and Agricultural Intensification¹
2013 Bluefields Bay Research Project – USU Archaeology Lab
2010-2013 Bio-Science Lab Assistant – USDA-ARS-PIRU Bee Biology and Systematics Lab
2012 Laboratory Assistant – USU Spatial Data Collection Analysis and Visualization Lab
2012 Program Assistant – USU Museum of Anthropology
2011-2013 Volunteer Faunal Analyst – USU Archaeological Services
2011 ANTH 5800 Independent Study – Zooarchaeology
2011-2013 Volunteer Museum Collections Management – USU Museum of Anthropology
2011-2012 Volunteer Archaeology Lab Assistant – USU Archaeology Lab
2011 ANTH 4810 Museum Internship – USU Museum of Anthropology
2011 ANTH 5310 Archaeology Lab – USU Archaeology Lab

Martin Welker

SERVICE

- 2018 Penn State Envision: STEM Career Outreach Day – Volunteer Educator
2017-2018 Utah State University Bird Strike Census – Dr. Kimberly Sullivan
2017 Educational Demonstrator Juniata College Conservation Students Visit – Shaver’s Creek
2017 Penn State Bayesian Modeling and Radiocarbon Dating Workshop – Co-organizer
2017 Shaver’s Creek Wood Turtle Surveys – (ICUN Red List Endangered Species)
2016-Present Shaver’s Creek Environmental Center – Raptor Care and Training Volunteer
2017 Exploration U Science Expo Anthropology Activities Table
2015, 2016 Educational Outreach Foster Farm Middle School Student Site Visit
2014-2017 Penn State Anthropology Graduate Student Colloquium Committee Representative
2013-2017 Penn State Anth Club Graduate School Applications Questions Panel Representative
2013 Penn State Anthropology Graduate Student Association Co-Treasurer (\$3036.95 Granted)
2012-2013 Utah State University Museum of Anthropology Volunteer
2009-Present National Audubon Society Christmas Bird Count – Logan, UT and State College, PA

AWARDS AND HONORS

- 2017-2018 William T. Sanders Graduate Award in Anthropology – Penn State
2014-2016 RGSO Conference Travel Award (\$1900)
Apr. 2013 Anthropology Student of the Year – Utah State University
2012-2013 Honors Research Fund (\$1500)
Aug. 2012 Anthropology Scholarship (\$500)
Apr. 2012 A-Pin Award for 4.0 GPA in consecutive semesters
Aug. 2009 Dean’s Scholarship (\$9452)
Aug. 2009 National Merit Semi-Finalist Stipend (\$2000)

PROFESSIONAL AFFILIATIONS

- 2017-Present Register of Professional Archaeologists
2016-Present Council for Northeastern Historical Archaeology Member
2016-Present Canadian Archaeological Association Member
2013-Present Society for American Archaeology Member
2013-Present American Institute for Archaeology Member
2009-Present Golden Key National Honors Society Member

ARCHAEOLOGICAL SKILLS AND EXPERIENCE

Field Skills:

- Artifact Photography/Illustration
- Excavation (Natural/Arbitrary Layers)
- Ground Penetrating Radar/Magnetometry
- GPS, Total Station, RTK Use
- Pedestrian Survey
- Profile, Section, and Plan Mapping

Laboratory Skills:

- Faunal Analysis
- AMS 14C Sample Preparation
- Bone Collagen Extraction and Purification (Ultrafiltration & XAD)
- Fourier Transform Infrared Spectroscopy (FTIR)
- Flootation
- Isotope Sample Packing (C-N & Sulfur)
- Lithic Analysis
- Macrobotanical Sample Sorting
- Museum Collections Management and Curation
- Site and Survey Report Writing
- Morphometric Analysis

Martin Welker

Computer Skills:

- Adobe Photoshop and Illustrator
- ArcGIS Spatial Analysis
- Microsoft Access Database Creation
- Filemaker Pro Database Creation
- Past Perfect Data Entry
- SPSS Statistical Analysis
- Golden Grapher Figure Creation
- R Statistical Analysis

WORK HISTORY

Field Director

2015, 2016 Pennsylvania State University Archaeology Field School
Pennsylvania State University, University Park, PA (Dr. Claire M. Milner)
Student Management, Teaching Basic Excavation, Survey, and Laboratory Methods

Research Assistant – (May-August)

2014 Human Geochemistry and Paleoecology Laboratory
Pennsylvania State University, University Park, PA. (Dr. Douglass Kennett)
Bone Collagen Extraction and Purification, Charcoal sample preparation, AMS and
Isotope sample preparation, FTIR

Program Assistant – (May-August)

2014 Matson Museum of Anthropology
Pennsylvania State University, University Park, PA. (Dr. Claire Milner)
Collections organization, Visitor reception, Educational activity design

Field Technician

2012-2013 Utah State University Archaeological Services (USUAS)
Logan, UT. (Dr. Kenneth Cannon)
CRM Pedestrian survey, Excavation, Artifact photography, GPS mapping, Magnetometer
grid establishment

Program Assistant – (May-June)

2012 Utah State University Museum of Anthropology
Utah State University, Logan, UT. (Dr. Elizabeth Sutton)
Collections organization, Artifact curation, Artifact photography, Database management,
Condition assessment

Lab Technician – (January-May)

2012 Utah State University Spatial Data Collection, Analysis, and Visualization Laboratory
Utah State University, Logan, UT. (Dr. Molly Cannon)
Spatial data analysis, Historic document transcription

Bio-Science Lab Assistant

2010-2013 USDA-ARS-PIRU Bee Biology and Systematics Laboratory
Logan, UT. (Dr. Theresa Pitts-Singer)
Alfalfa leafcutter bee management, Nest counting, Data entry, Bee releases, Parasite
identification, Greenhouse experimentation.

REFERENCES

Dr. Sarah B. McClure
Pennsylvania State University
Department of Anthropology
University Park, PA 16802
Office: (814) 863-2694
Email: sbm19@psu.edu

Dr. Patricia M. Lambert
Utah State University
Department of Sociology, Social Work, and Anthropology
Logan, UT 84322
Office: (435) 979-2603
Email: patricia.lambert@usu.edu

Dr. Douglas J. Kennett
Pennsylvania State University
Department of Anthropology & Institute for Energy and the Environment
University Park, PA 16802
Office: (814) 867-0005
Email: djk23@psu.edu