

ANTH 248: The Archaeology of Wild Foods

Professor Madonna L. Moss

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WHERE AND WHEN

Class: 10:00-11:20 am, Monday & Wednesday in **240C McKenzie**

Section Location: Thursdays; Labs 1, 2, 4, 9 in **204 Condon**, Labs 3 & 5 in **264 Condon**, Labs 6, 7, 8 in **Many Nations Longhouse**.

Course Materials: All readings are available through the **Canvas** course website. Assigned handouts, websites, and videos are in a separate Canvas module.

Required Resources: I-Clicker 2, please register in Canvas.

COURSE DESCRIPTION

Obviously, food is necessary for human survival, but it is also a vital form of material culture. Archaeological evidence of the foods eaten in the ancient past can reveal aspects of identity, community, and interaction. In this course we explore some of the earliest evidence of food, how it is interpreted archaeologically, and what this tells us about people's lives. This course focuses on four topics:

- 1) how diet and the earliest cooking technologies affected human evolution
- 2) the harvest and processing of several key wild foods of the Pacific Northwest
- 3) cooking technologies that pre-date the advent of pottery and metal
- 4) how food is central to the identities and cultures of Native Americans, First Nations, & Alaska Natives

In this course, students will learn about the origins of cooking over 1 million years ago, various "Paleodiets," how First Nations, Native Americans, and Alaska Natives developed ingenious ways to support themselves, and how people boiled in baskets and boxes, cooked in underground ovens, dried and smoked fish, and made bone grease and fish oils. Along the way, we learn about the myriad ways archaeologists and anthropologists study food remains and traces of consumption and processing.

Students will develop foundational knowledge in aspects of 1) nutrition and diet, 2) food processing and safety, and the 3) ecology, zooarchaeology, and paleoethnobotany of the Pacific Northwest. Laboratory exercises allow students to examine stone and bone tools and the skeletal elements of Northwest fish, birds, and mammals to understand how archaeologists go about studying archaeological remains. They will gain perspective on their own dietary habits, participate in pre-industrial food preparation and cooking exercises, and take part in a tasting event at the Many Nations Longhouse. Upon completion of the course, students will understand how food is embedded in the Indigenous cultures of the Pacific Northwest, and re-evaluate their own personal connections to food, including wild foods.

As a **Science (SC) Group-Satisfying Course**, this class introduces students to archaeology, human evolution, zooarchaeology, paleoanthropology, nutrition, ecology of the Pacific Northwest, and fisheries and wildlife management. We consider basic questions such as how meat-eating (through scavenging then hunting) affected our evolutionary trajectory and how cooking made available nutrients that

sustained the development and expansion of the hominid brain. We examine these fundamental questions by investigating the archaeological and paleontological records. From bone chemistry and tooth microwear, we know that *Homo* was an omnivore, and we examine the early evidence for controlled use of fire to cook food. Of the traditional cooking techniques we survey, the use of earth ovens goes back 30,000 years, and these made possible the consumption of plants that were previously inedible or hard to digest. How cooking alters the chemistry of foods by destroying food-poisoning bacteria or increasing the available nutrients (e.g., from inulin) will be described. The Maillard reaction and preservation techniques (smoking, fermentation) will be reviewed. Students will become acquainted with contemporary fish and wildlife management, with attention to historical ecology, commercial fishing for salmon, herring, and invertebrates, and sports vs. subsistence hunting of birds. They will learn about loss of camas habitat in the Willamette Valley over the last 150 years. They will witness how archaeologists integrate data from a variety of disciplines (fisheries and wildlife biology, ecology, oceanography, molecular analyses) to investigate issues of anthropological importance.

As a **U.S. Difference, Inequality, and Agency** offering, this course examines wild foods relied upon by Alaska Natives (Tlingit, Haida), First Nations of British Columbia (Haida, Heiltsuk, Kwakwakw'wakw, Nuu-chah-nulth, Coast Salish), and Native Americans in Washington and Oregon (Makah, Coast Salish, Kalapuya), with a foray into food traditions of the Wampanoag and the Pilgrims at the mythical "First Thanksgiving." In our exploration of traditional cooking techniques we draw on examples from the Indigenous peoples of the Far North & Subarctic (Yupik, Inupiat, Inuit, Cree), Plateau, and American Southwest. The course reveals the antiquity of use of animal and plant foods as evident in the archaeological record, the impact of colonialism on indigenous resources and foodways, and the maintenance and practice of aboriginal food traditions today in the context of commercial fishing and shell-fishing, pollution, and climate change. We will learn how dispossession from Indigenous lands and federal, provincial and state control of fish and wildlife (in the U.S. and Canada) has created a legacy of inequality Indigenous people continue to resist today. Students will have the opportunity to reflect on their own families and food traditions and understand how their multiple social identifications have formed in relation to power. We address several controversial issues, such as the Makah Tribe's treaty right to hunt whales and the hunting of a variety of marine mammals by Alaska Natives. We examine the history of "subsistence management" in Alaska and Indigenous food sovereignty movements that work to re-instate the centrality of indigenous foods in modern diets. By understanding the archaeological and historical context of these issues, students will gain an expanded view of their own food choices and traditions. Over the term, students will gain insight into the intersecting aspects of identity particularly salient to Indigenous peoples of the Northwest and Far North, particularly race, gender, socioeconomic status, indigeneity, national origin, and urban/rural. How institutional power has been and continues to be used to marginalize Indigenous peoples is explored with many examples. Four of the authors we read are of Indigenous descent, and tribal members take part in the *Tastings* lab at the Many Nations Longhouse. One-third of our laboratories take place in the Longhouse. The course provides students with a critical perspective on contemporary environmental issues that affect everyone living in the Pacific Northwest.

Overarching Learning Outcomes: *More than 100 learning outcomes* have been developed for this course. These are posted in a separate module on Canvas. They can all be nested within at least one of the following overarching learning outcomes.

- learn how to read scientific literature and develop scientific literacy drawing from multiple disciplines (archaeology, biological anthropology, nutritional ecology, historical ecology, marine ecology, fisheries and wildlife management) to critically evaluate research on course topics

- learn how archaeologists study foodways, by employing traditional ecological knowledge, ethnographies, history, experimental and actualistic studies to interpret standard archaeological, zooarchaeological, and paleobotanical data (from survey, excavation, and analyses of archaeological site contents and structure)
- understand the legacies of evolution regarding scavenging, meat-eating, and cooking of wild plant and animal foods and how these have affected the biology and development of our species over time
- demonstrate specific knowledge of the Indigenous foodways of different tribal groups in the Pacific Northwest and Far North that involved a variety of wild foods (including salmon, herring, shellfish, marine mammals, camas and other plants). Understand how colonial systems undermined Indigenous foodways and ecological knowledge and reverberate today.
- gain academic and experiential knowledge of 1) chipped stone tool use, 2) identifying animal bones and taphonomic signatures, 3) use of screens in data recovery, and 4) stone-boiling, pit-roasting, extracting bone marrow, and making bone grease using some pre-industrial tools and techniques.
- experience the inter-connections of food, identity, and culture in Alaska Native, First Nations, and Native American societies. Understand how Indigenous food sovereignty movements emphasize the cultural responsibilities and relationships Indigenous peoples have with their environments. Reflect upon how food, identity, and culture are inter-twined in everyone's lives.

Estimated Student Workload: Students are expected to attend lectures and a lab each week. Students should spend on average **8 hours per week outside of class** completing readings and reviewing course materials, with more time spent studying during the weeks leading to the three exams. Three pre-lab, three pre-lecture, and one post-lab assignment will be completed. **Six of the assignments are submitted online BEFORE class or lab, but students should bring a hard copy to lecture or lab.** The Post-lab assignment is submitted online after the lab.

Grading: Final grades will be based on a percentage of 300 points:

- two exams during class (each 40 points) in weeks 4 and 7 (multiple choice questions)
- one final exam (60 points)
- laboratory attendance and participation (each 5 points); arrive on time and stay for the full period. Some labs are exercises or demonstrations; others are group discussions
- 3 pre-lecture assignments (each 10 points) for Lecture Day 6, 11, & 15; submit online prior to lecture
- 3 pre-lab assignments (each 10 points) submit online prior to first lab for Labs 1, 2, and 9
- 1 post-lab assignment (5 points) after Lab 8
- participation (50 points) via I-Clicker use and 1-minute papers (submit on index cards)

Grades are rounded to the nearest tenth, and the grading scale is as follows:

A+ = 97.5-100%	A = 92.5-97.4%	A- = 90-92.4%	
B+ = 87.5-89.9%	B = 82.5-87.4%	B- = 80-82.4%	
C+ = 77.5-79.9%	C = 72.5-77.4%	C- = 70-72.4%	
D+ = 67.5-69.9%	D = 62.5-67.4%	D- = 60-62.4%	F = 59.9% or below

If the class is taken P/NP, a C- or higher is required to pass the course.

Expected levels of performance:

A+ Quality of student's performance significantly exceeds all requirements and expectations required for an A grade. Very few, if any, students receive this grade.

A: Quality of performance is outstanding relative to that required to meet course requirements; demonstrates mastery of course content at the highest level.

B: Quality of performance is significantly above that required to meet course requirements; demonstrates mastery of course content at a high level.

C: Quality of performance meets the course requirements in every respect; demonstrates adequate understanding of course content.

D: Quality of performance is at the minimal level necessary to pass the course, but does not fully meet the course requirements; demonstrates a marginal understanding of course content.

F: Quality of performance in the course is unacceptable and does not meet the course requirements; demonstrates an inadequate understanding of course content.

Course Readings (listed alphabetically here, see class schedule for when to read)

Archer, W., D.R. Braun, J.W.K. Harris, J.T. McCoy, and B.G. Richmond (2014) Early Pleistocene Aquatic Resource Use in the Turkana Basin. *Journal of Human Evolution* 77:74-87. **JOURNAL ARTICLE**

Black, Stephen L. and Alston V. Thoms (2014) Hunter-Gatherer Earth Ovens in the Archaeological Record: Fundamental Concepts. *American Antiquity* 79(2):203-226. **JOURNAL ARTICLE**

Boas, Franz (1921) *Ethnology of the Kwakiutl, based on data collected by George Hunt*. Thirty-fifth Annual Report of the Bureau of American Ethnology. Government Printing Office, Washington. (pp. 223-241) **Excerpt from MONOGRAPH**

Brown, Frank and Y. Kathy Brown, compilers (2009) *Staying the Course, Staying Alive: Coastal First Nations Fundamental Truths: Biodiversity, Stewardship and Sustainability*. Biodiversity BC. Victoria, BC. **Online document**, www.biodiversitybc.org, June 13, 2017.

Coté, Charlotte (2015) Food Sovereignty, Food Hegemony, and the Revitalization of Indigenous Whaling Practices. In *The World of Indigenous North America*, edited by Robert Warrior, pp. 239-264. Routledge, New York. **EDITED VOLUME BOOK CHAPTER**

Deetz, James and Patricia E. Scott Deetz (2000) *The Times of Their Lives: Life, Love, and Death in Plymouth Colony*. W.H. Freeman, New York; pp. 1-29. **BOOK CHAPTER**

Dow, Judy (2003) Deconstructing the Myths of "The First Thanksgiving." **Electronic document**, <http://gedakina.org/wp-content/uploads/2015/11/Deconstructing-First-Thanksgiving-Judy-Dow.pdf>, accessed July 13, 2017.

Fitzpatrick, S. M. (2015) Columbian Exchange. In *Archaeology of Food: an Encyclopedia*, edited by K.B. Metheny and M.C. Beaudry, pp. 104-109. Rowman and Littlefield, Lanham, MD. **EDITED VOLUME BOOK CHAPTER**

Frink, Liam and Celeste Giordano (2015) Women and Subsistence Food Technology: the Arctic Seal Poke Storage System. *Food and Foodways* 23:251-272. **JOURNAL ARTICLE**

Graesch, A.P., T. Dimare, G. Schachner, D.M. Schaepe, J. Dallen (2014) Thermally Modified Rock: The Experimental Study of "Fire-Cracked" Byproducts of Hot Rock Cooking *North American Archaeologist* 35(2):167-200. **JOURNAL ARTICLE**

Kelm, Mary-Ellen (1998) My People are Sick, My Young Men are Angry: the Impact of Colonization on Aboriginal Diet and Nutrition. Chapter 2 in *Colonizing Bodies: Aboriginal Health and Healing in British Columbia, 1900-50*, pp. 19-37. UBC Press, Vancouver. **BOOK CHAPTER**

Kuhnlein, H.V. and M.M. Humphries (2017) Traditional Animal Foods of Indigenous Peoples of Northern North America. **Electronic document**, <http://traditionalanimalfoods.org/> accessed July 13, 2017.

Kuhnlein, H.V. and N.J. Turner (2009) Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. **Electronic document**, <http://www.fao.org/wairdocs/other/ai215e/ai215e00.HTM> accessed July 13, 2017.

Melamed, Y., M.E. Kislev, E. Geffen, S. Lev-Yadun, and N. Goren-Inbar (2016) The Plant Component of an Acheulian Diet at Gesher Benot Ya'aqov, Israel. *Proceedings of the National Academy of Sciences* 113(51):14674-14679. **JOURNAL ARTICLE**

Moss, Madonna L. (1993) Shellfish, Gender, and Status on the Northwest Coast of North America: Reconciling Archeological, Ethnographic and Ethnohistorical Records of the Tlingit. *American Anthropologist* 95(3):631-652. **JOURNAL ARTICLE**

Moss, Madonna L. (2010) Re-Thinking Subsistence in Southeast Alaska: the Potential of Zooarchaeology. *Alaska Journal of Anthropology* 8(1):121-135. **JOURNAL ARTICLE**

Moss, Madonna L. (2011) *Northwest Coast: Archaeology as Deep History*. SAA Press, Washington. (pp. 7-26). **BOOK CHAPTER.**

Moss, Madonna L. (2016) The Nutritional Value of Pacific Herring: an Ancient Cultural Keystone Species on the Northwest Coast of North America. *Journal of Archaeological Sciences: Reports* 5:649-655. **JOURNAL ARTICLE**

Moss, Madonna L. (2017) Camas: Economic Staple or Gourmet Trade Item? **Electronic document**, <https://blogs.uoregon.edu/mmosss/2017/06/23/camas-economic-staple-or-gourmet-trade-item/> accessed June 16, 2017.

Pobiner, Briana (2016) Meat-Eating among the Earliest Humans. *American Scientist* 104(2):110-117. **MAGAZINE**

Speth, John D. (2015) When Did Humans Learn to Boil? *PaleoAnthropology* 2015:54-67. **JOURNAL ARTICLE**

Suttles, Wayne (2005) Coast Salish Resource Management: Incipient Agriculture? In *Keeping it Living: Traditions of Plant Use and Cultivation on the Northwest Coast of North America*, edited by Douglas Deur and Nancy J. Turner, pp. 181-193. UBC Press, Vancouver. **EDITED VOLUME BOOK CHAPTER**

Wrangham, Richard (2009) *Catching Fire: How Cooking Made Us Human* (pp. 1-53). Basic Books, New York. **EXCERPT from BOOK.**

Zimmer, Carl (2015) Inuit Study Adds Twist to Omega-3 Fatty Acids' Health Story. *New York Times Science*, September 17, 2015. **NEWSPAPER ARTICLE**

Course Policies

Inclusion Statement

The College of Arts and Sciences at the University of Oregon affirms and actively promotes the right of all individuals to equal opportunity in education without regard to race, color, sex, national origin, age, religion, marital status, disability, veteran status, sexual orientation, gender identity, gender expression or any other consideration not directly and substantively related to effective performance. If a student feels that s/he has encountered discrimination or harassment, please inquire at the Office of Affirmative

Action & Equal Opportunity (<http://aaeo.uoregon.edu>, 541-345-3123) for information on a student's rights, options, and resources. Confidentiality for all parties is respected to the extent possible.

Disability If a student has a documented disability and will need accommodation in this course, please contact the instructor soon. Please also request the Counselor for Students with Disabilities send a letter verifying the disability.

Academic Dishonesty Students caught cheating or plagiarizing will receive a "0" for that particular assignment or exam, and the incident will be reported to campus authorities. Plagiarism includes, but is not limited to: (a) the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment; and (b) the knowing or negligent unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers, other assignments, or other academic materials. For more information about academic misconduct, see <http://dos.uoregon.edu/social-misconduct>. For more information on avoiding plagiarism, see <http://researchguides.uoregon.edu/citing-plagiarism>.

Classroom/Office Courtesy - Please follow these guidelines to avoid disrupting class:

- Turn off cell phones before arriving.
- Do not arrive late or leave early (except for a bathroom break or emergency).
- Do not sleep during class.
- Do not work on other assignments during class.
- You can use computers or tablets to take notes, but do not tweet, surf the web, check email or Facebook, Instagram, etc., during class.

Missed-Class Policy – I cannot re-teach the course outside of lecture; I am happy to answer questions, clarify content, and provide guidance for those who attend class and come in with informed questions after they have attempted the work themselves. Students who miss class must secure notes and other materials from another student in the class.

Material on the CANVAS site is for student use in this class. It is not for posting or sale. Materials written by the instructor are the instructor's intellectual property. It is important that everyone respect each other's rights. For instance, a student should not copy and redistribute course materials without instructor's permission. The instructor may post copyrighted materials on the course site. It is the instructor's responsibility for ensuring that such posting does not violate copyright law, but students should be aware that they do not have the right to make additional copies or redistribute these materials.

Date	Subjects	Readings/Assignments
Week		
Part I: Food, Cooking, and Human Evolution		
1	Course Business & Introduction	
	Food 50 Years Ago	Genres of Scientific Writing
Lab 1	How students' diets compare to those of their grandparents	Pre-lab #1 worksheet (interview)
2	Dietary change over 500 years: Columbian Exchange; sweet potato as even older evidence of food globalization	Fitzpatrick 2015
	Did cooking make us human?	Wrangham 2009:1-53; Glossary of Human Evolution.
Lab 2	Today's "Paleo-Diet": Is it really "Paleo"?	Pre-lab #2 worksheet, Warinner TED talk
3	Our Omnivorous Ancestors I	Pobiner 2016; Archer et al. 2014
	Our Omnivorous Ancestors II	Melamed et al. 2016; Pre-lecture #1 assign.
Lab 3	Chipped Stone, Screen Recovery, Bone Taphonomy	
4	Exam 1 in Class	
Part II: Wild Foods of the Pacific Northwest – Brown & Brown 2009:VI-XV; 1-74		
	Introduction to Northwest Peoples & History; Salmon	Moss 2011
Lab 4	Review of Exam 1 & Geographic Prep for Unit 2	
5	Colonialism & Indigenous Foods	Kelm 1998; Brown & Brown (2009:VIII-IX, 13-18, 33-34, 43-48)
	Shellfish and Clam Terraces	Moss 1993; Brown & Brown (2009:VIII, 36, 43); view <i>Ancient Sea Gardens</i>
Lab 5	Zooarchaeology Reference Collection	264 Condon Hall
6	Herring & Herring Eggs	Moss 2016; Brown & Brown (2009:XV-XIX, 31 caption, 39, 50) Zimmer 2015; Pre-lecture #2 assign.
	Camas, Acorns, and other plants	Suttles 2005; Moss 2017 blog
Lab 6	Salmon, Baked Camas, Bone Marrow Tasting	Longhouse ; Revisit Fundamental Truths in Brown & Brown (2009)
7	Exam 2 in Class	
Part III: Pre-Neolithic Cooking Technologies		
	Hot Rock Cookery – Pit Ovens	Black and Thoms 2014; Speth 2015
Lab 7	Stone Boiling, FCR & TMR, boiling in a box or hide	Longhouse : Graesch et al. 2014
8	Preparing Salmon and how to use ethnographic sources	Boas 1921; Pre-lecture #3 worksheet
	Marine Mammal Oils, Storage, Fermentation	Frink and Giordano 2015; view <i>Cree TV: Making Pemmican</i>
Lab 8	Making Bone Grease	Longhouse
Part IV: Native Americans, Alaska Natives and First Nations: Food, Identity and Culture		
9	Foods at the First Thanksgiving - Excerpts from <i>The Pilgrims</i>	Deetz & Deetz 2000; Dow 2003
	No Class - Thanksgiving	
	No Lab	
10	"Subsistence" in Alaska	Moss 2010
	Indigenous Food Sovereignty	Coté 2015; Brown & Brown (2009:XVIII-XIX)
Lab 9	Indigenous foods of the North	Pre-lab #9; Kuhnlein & Humphries 2017; Kuhnlein & Turner 2009
11	Exam 3 – 10:15 am, Monday, December 3	