

HSPV 747-401 /ANTH 508-401 CONSERVATION AND MANAGEMENT OF
ARCHAEOLOGICAL SITES and LANDSCAPES
Spring 2017/ Wed 2-5 /

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"No-one could suppose, who has not tried it, what an immense amount of time and care is needed to preserve things." Sir Flinders Petrie, *Hawara Journal* (1888):19.

Course Description

Archaeological sites have long been considered places of historical and cultural significance and symbols of national and ethnic identity. More recently they have offered new opportunities for economic and touristic development in both urban and rural settings. With a unique and complex set of physical conditions including fragmentation, illegibility, extreme environmental exposure and material deterioration, as well as contested ownership and control, their conservation, management, and interpretation as heritage places require special knowledge and methodologies for both heritage specialists and archaeologists.

This seminar-studio will address the history, theories, principles, and practices of the preservation and interpretation of archaeological sites and landscapes. The course will draw from a wide range of published material and experiences representing both national and international contexts. Topics will include documentation and recording; site formation and degradation; intervention strategies including interpretation and display, legislation, national and international policy, and contemporary issues of public involvement and descendent community ownership.

The course will be organized as a seminar incorporating readings, lectures and discussions on major themes defining the subject of ruins and archaeological site conservation. Readings have been selected to provide exposure to seminal works in the development of theory and method as well as current expressions of contemporary practice. This will set the background for the selected case study site which will provide students the opportunity to work with primary and secondary materials related to archaeological and ruin sites: excavation reports, stabilization work, conservation, interpretation, and management plans. Students will study specific issues contributing toward the development of a conservation and management program in accordance with guidelines established by ICOMOS/ ICAHM and other official agencies (e.g., national legislation such as NPS-28).

2018 Case Study Site: *Impossible Ruins – Fort Union National Monument*

The ruin has long captured the imagination of poets, writers, artists, and architects. From Colonna to Goethe, from Soane to Tschumi, the ruin has evoked the entire spectrum of

human responses. The ruin admonishes, delights, and instructs in its fragmentation, defiantly resisting attempts to suspend its 'unbecoming'. Until the scientism of the 20th century, ruins allowed the receptive visitor the solace and contemplation of nature and the inevitable fallibility of the material world. Today, the ruin, and especially the modern ruin, causes us to confront the myth of human progress and the failure of our own institutions. This discomfort is often tamed or neutralized by transforming the ruin into 'heritage.'

One hundred miles northeast of Santa Fe is the largest adobe ruin in North America and once the largest U.S. military reservation west of the Mississippi River. Few American landscapes embody human time and the vastness of space as Fort Union where adobe, brick, and stone walls that once helped define and defend Manifest Destiny now defiantly resist wholesale destruction from the harsh climate of New Mexico's northeastern plains. Established as a National Monument on June 28, 1954, Fort Union would challenge every succeeding generation of cultural resource specialists—archaeologists, architects, historians, engineers, scientists, conservators, and masons—to find a sustainable solution to the preservation of its earthen walls. Doggedly enduring, like its equally venerable neighbor, the Santa Fe Trail, whose eroded wagon ruts traverse the endless open landscape around the site, the ruins of Fort Union now face unprecedented challenges as increased cycles of extreme weather undermine and topple walls, destroying what has silently stood for over 150 years.

Extreme weather is not the only challenge facing Fort Union. Out dated interpretation demands a renewed narrative on the importance and meaning of the site within a broader social and cultural context addressing race, ethnicity, gender, and non-military life as played out on the plains of eastern New Mexico. In addition, the original Mission 66 visitor center and museum including its displays are under revision and the ruins and landscape need to be re-evaluated in terms of their display as part of a larger evolving cultural landscape.

Requirements

Grades will be based on the two research papers and the submitted questions and class discussions on the weekly readings and topics. Grading will be in accordance with general academic policies: a grade of A/A- will represent exceptional work, B/B+ will represent good work that meets the academic standard set for the course, and B- will represent work that is just under the established standard. C and C+ are barely passing for graduate courses and will indicate work that is less than satisfactory. Failure to meet the minimum requirements will result in an F. All work is to be delivered on the dates described in the syllabus or agreed upon in class if changed. Final grades will be based on contribution to class discussions (20%), Research Proposal (40%) and Research Report (40%). More detailed specifications for the Research Papers are in a separate guidelines and at the end of the syllabus.

Students are asked to contribute to a positive learning environment and to review the school's guidelines on academic integrity at:

http://www.upenn.edu/academicintegrity/ai_codeofacademicintegrity.html

Representation of someone else's work as your own, without proper attribution, is a serious breach of these guidelines. Cell phones are prohibited during class and are to be put away except during break time. Laptops are allowed for class notes only. Use will be discontinued if the policy is abused. Discussion leaders will be selected each week to lead the class in the assigned readings.

Class Format and Products

Classes will be held seminar fashion. Most topics will be introduced by an illustrated lecture followed by discussion of the lecture and readings. All students are expected to come prepared and on time. Please bring notes on the readings so we can have a meaningful conversation in the time available.

Fieldwork is an important component of the course. Our collective task will be to evaluate and assess the current condition, management, and interpretive program of Fort Union National Monument, New Mexico and consider the risks, threats, and unrealized potential associated with a range of critical factors from climate change to past and current interpretation, stabilization, and display.

Each student identify a relevant project and will be required to produce original research in the form of a written paper and presentation. This will be delivered in two stages: 1- *A Research Proposal* and 2- the final *Research Paper*.

Research Proposal

The goal of a research proposal is to present and justify the need to study a research problem related to a critical issue at the study site and to present the practical ways in which the proposed study should be conducted. The design elements and procedures for conducting the research are governed by standards within the predominant discipline in which the problem resides. Research proposals contain extensive literature reviews. They must provide persuasive evidence that a need exists for the proposed study. In addition to providing a rationale, a proposal describes detailed methodology for conducting the research consistent with requirements of the professional or academic field and a statement on anticipated outcomes and/or benefits derived from the study's completion. A proposal should contain all the key elements involved in designing a completed research study, with sufficient information that allows readers to assess the validity and usefulness of your proposed study. The only elements missing from a research proposal are the findings of the study and your analysis of those results. In addition to the written proposal, a formal summary oral version will be presented in class at mid semester.

Research Paper

The Research Paper is an expanded essay that presents your own interpretation or evaluation or argument. When you write an essay, you use everything that you personally know and have thought about a subject. When you write a research paper you build upon what you know about the subject and make a deliberate attempt to find out what experts know. A research paper

involves surveying a field of knowledge in order to find the best possible information in that field. And that survey can be orderly and focused, if you know how to approach it. Research topics are to be discussed and identified no later than the field visit or midterm to allow sufficient time to research and prepare. In addition to the final written document, a formal summary oral version will be presented in class at the end of the semester. A typical research paper includes the following components:

1. Introduction
2. Review of Literature
3. Methodology
4. Findings (also called Results)
5. Discussion
6. Conclusion
7. References (according to APA style)
8. Appendices (if needed)

Critical Dates:

02/28 Research Proposals due
04/18 Final Presentations
04/25 Final Presentations
05/02 Draft Research Papers due
05/07 Final Research Papers due

Required Course Textbooks: (available at Penn Book Center or on Desk Reserve)

- Sullivan, Sharon and David Mackay, eds. *Archaeological Sites: Conservation and Management. Readings in Conservation.* Los Angeles: The Getty Conservation Institute, The J. Paul Getty Trust, 2012. (Reader)
- Ashurst, John, ed. *The Conservation of Ruins.* Oxford: Butterworth-Heinemann, 2007.

Class Schedule (All guest lectures provisional until confirmed)

- 01/17 Introduction to the course: objectives, methodologies & structure – F. Matero + C. Erickson
Archaeological theory, practice, and the archaeological ‘site’ – C. Erickson
- 01/24 Values-based planning for conservation and management of archaeological sites and landscapes; World Heritage Conventions and Charters- F. Matero
- 01/31 Site formation, ruins, and weathering – C. Erickson + F. Matero
- 02/07 The monumental and the trace: site conservation and display
Case Study: Gordion – F. Matero
- 02/14 Archaeological landscapes as cultural heritage – C. Erickson
- 02/21 National Monument Fort Union National Monument – F. Matero + C. Erickson
- 02/28 Midterm Presentations-Research Proposals due
Discuss proposed fieldwork, survey, and data collection
- 03/03-11 Spring Recess – Fieldwork at Fort Union
- 03/14 Individual Project updates
- 03/21 Mapping values, risk and threat
- 03/28 Stewardship and ownership of the past-Local lessons from the President’s House – Jed Levin, Archaeologist, INHP/NPS
- 04/04 Urban Architectural Archaeology-The Case of Cairo’s Ayyubid Wall-Francesco Siravo and Frank Matero
- 04/11 Economic sustainability of archaeological sites – Peter Gould, Consulting Scholar, Penn Cultural Heritage Center
- 04/18 Final Presentations-Research Papers
- 04/25 Final Presentations-Research Papers

Reading Syllabus

01/17 Introduction: course objectives, methodologies, and structure Archaeological theory, practice, and the archaeological 'site'

FOR DISCUSSION:

Dunnell, Robert C. The Notion Site. In *Space, Time, and Archaeological Landscapes*, edited by Jacqueline Rossignol and LuAnn Wandsnider, 21-41. New York: Plenum Press, 1992.

Egloff, Brian and Douglas C. Comer. *Conserving the Archaeological Soul of Places: Drafting Guidelines for the ICAHM Charter* (Reader)

Jokilehto, Jukka. *Conservation Concepts* (Reader) or Chapter 1-Conservation concepts (Ashurst)

Lipe, William D. *A Conservation Model for American Archaeology* (Reader)

Smith, Laurajane. Chapter 3: Archaeological Theory and the "Politics" of the Past. In *Archaeological Theory and the "Politics" of Cultural Heritage*. Routledge, NY. 2005 [NOTE: pp. 1-14 of the pdf file only]

For those with no background in archaeology:

Ashmore, Wendy. *Discovering our past: a brief introduction to archaeology*. 4th ed. Boston: McGraw-Hill, c.2006.

Preucel, Robert and Stephen Mrozowski. Introduction. In *Contemporary Archaeology in Theory: The New Pragmatism* [2nd Edition], edited by Robert Preucel and Stephen Mrozowski, 3-49. New York: Wiley, 2010.

OPTIONAL READING:

Camardo, Domenico. *Archaeology and Conservation at Herculaneum: From the Maiuri Campaign to the Herculaneum Conservation Project* (Reader)

Holtorf, Cornelius. *Contemporary Meanings*. In *From Stonehenge to Las Vegas: Archaeology as Popular Culture*. Walnut Creek: Altamira, 2005.

McGimsey, Charles, R. III. Statement before the [House] Subcommittee on National Parks and Recreation of the Committee on Interior and Insular Affairs (Reader)

Tainter, Joseph. Persistent Dilemmas in American Cultural Resource Management. In *A Companion to Archaeology*, edited by John Bintliff et al., Routledge Press, NY, 2004.

01/24 Values-based planning for conservation and management of archaeological sites and landscapes; World Heritage conventions and charters; monuments, universal value and values-based planning

FOR DISCUSSION:

Carver, Martin. On Archaeological Value (Reader)

Clark, Kate. The Bigger Picture: Archaeology and Values in Long-Term Cultural Resource Management (Reader)

Cleere, Henry. The Concept of 'Outstanding Universal Value' in the World Heritage Convention. Conservation and Management of Archaeological Sites 1(4):227-233, 1996.

King, Thomas. Resolving a Conflict of Values in American Archaeology (Reader)

Mason, Randall and Erica Avrami. Heritage Values and Challenges of Conservation Planning. In Management Planning for Archaeological Sites, edited by J.M. Teutonico and G. Palumbo. Los Angeles: The Getty Conservation Institute, J. Paul Getty Trust, 2002.

PLEASE REVIEW:

Cleere, Henry. Management Plans for Archaeological Sites: A World Heritage Template. Conservation and Management of Archaeological Sites 12(1):4-12, 2010.

Sullivan, Sharon & Richard MacKay. History: Concepts, Methods, and Issues Introduction, 1-5 and Milestones, 6-9. (Reader)

ICOMOS-Charters and other doctrinal texts

<http://www.icomos.org/en/charters-and-texts>

ICOMOS-International Committee on Archaeological Heritage Management

<http://www.icomos.org/icahtm/>

UNESCO. Operational Guidelines for the Implementation of the World Heritage Convention. World Heritage Center, 2008. <http://whc.unesco.org/archive/opguide08-en.pdf>

Global Heritage Fund

<http://globalheritagefund.org/>

World Monuments Fund

<http://www.wmf.org/>

Getty Conservation Institute

<http://www.getty.edu/conservation/>

OPTIONAL READING:

Muke, John, Tim Denham and Vagi Genorupa. Nominating and Managing a World Heritage Site in the Highlands of Papua New Guinea. World Archaeology 39(3): 324-338,2007.

Titchen, Sarah M. On the Construction of "Outstanding Universal Value:" Some Comments on the Implementation of the 1972 UNESCO World Heritage Convention. Conservation and Management of Archaeological Sites 1(4):235-42, 1996.

UNESCO. Management Plans and the World Heritage Convention: A Bibliography. Paris: UNESCO-ICOMOS Documentation Centre, 2010.

01/31 Site formation, ruins, and weathering

FOR DISCUSSION:

Agnew, Neville. Methodology, Conservation Criteria and Performance Evaluation for Archaeological Site Shelters (Reader)

Charnov, Avigail. 100 years of Site Maintenance and Repair: Conservation of Earthen Archaeological Sites in the American Southwest, *Journal of Architectural Conservation* 17(2011):59-75

How, Chris. Chapter 2-Stability and survival (Ashurst)

Schiffer, Michael B. Formation Processes of the Archaeological Record. Salt Lake City: University of Utah Press, Chapter 8-Environmental formation processes: the site, 199-234.

Commented [m1]: Add Chris Caple reading

02/07 The monumental and the trace: site conservation and interpretation

FOR DISCUSSION:

Ashurst, John and Colin Burns. Chapter 4-Philosophy, technology and craft (Ashurst)

Buccellati, Giorgio. Presentation and Interpretation of Archaeological Sites (Reader)

Crosby, Anthony. Ruins stabilization—the value implied. In International perspectives on cultural parks. Proceedings of the First World Conference, Mesa Verde National Park, Colorado, pp. 101-6. 1984.

Demas, Martha. Site Unseen: The Case for Reburial of Archaeological Sites (Reader)

Matero, Frank. Preserving and Presenting an Excavated Past (Reader)

Price, Nicholas Stanley. The Reconstruction of Ruins: Principles and Practice (Reader)

OPTIONAL READING:

Matero, Frank. Mudbrick Metaphysics. The Conservation and Management of Archaeological Sites

Matero, Frank. Place-making at Coronado State Monument: Edgar Lee Hewett's Feat of Clay. Special issue on Interpretation and the National Parks, *Journal of the West* 50(2011):21-30.

Woolfitt, Catherine. Chapter 5-Preventive conservation (Ashurst)

Case Studies:

The Getty Conservation Institute and Instituto Hondureño de Antropología e Historia. The Hieroglyphic Stairway of Copán, Honduras: Study Results and Conservation Proposals. Los

Angeles: The Getty Conservation Institute and Instituto Hondureño de Antropología e Historia, 2006.

http://www.getty.edu/conservation/publications_resources/pdf_publications/copan_s.html

de la Torre, Marta, Margaret G.H. Mac Lean, and David Myers. [*Chaco Culture National Historical Park: A Case Study*](#). Los Angeles: The Getty Conservation Institute, June 2003.

Demas, Martha. Ephesus. In *The Conservation of Archaeological Sites in the Mediterranean Region*, edited by M. de la Torre, 127-149. Los Angeles: The Getty Conservation Institute, J. Paul Getty Trust, 1997

Mason, Randall, Margaret G. H. Mac Lean, and Marta de la Torre. [*Hadrian's Wall World Heritage Site: A Case Study*](#).

Design and interpretation

Marti, Antoni N.: *Excavation, Exhibition, Conservation or Reservation: Technical Criteria for a Decision-Making Process* (Reader)

Schmidt, Hartwig. *Reconstruction of Ancient Buildings*. In *The Conservation of Archaeological Sites in the Mediterranean Region*, edited by M. de la Torre, 41-50. Los Angeles: The Getty Conservation Institute, J. Paul Getty Trust, 1997.

Stubbs, John H. *Protection and Presentation of Excavated Structures*. In *Conservation on Archaeological Excavations*, edited by N. P. Stanley Price, 73-89. Rome: ICCROM, 1995.

Tilley, Christopher. *Excavation as Theater* (Reader)

White, Amanda. Chapter 6-*Interpretation and display* (Ashurst)

02/14 Archaeological landscapes as cultural heritage

FOR DISCUSSION:

Anschuetz, Kurt L., Richard H. Wilshusen, and Cherie Scheick. *An Archaeology of Landscapes: Perspectives and Directions*. *Journal of Archaeological Research* 9(2):157-211, 2001.

Cleere, Henry. *Cultural Landscapes as World Heritage*. *Conservation and Management of Archaeological Sites* 1:63-68, 1995.

Mitchell, Nora, Mechtild Rössler, Pierre-Marie Tricaud eds. *World Heritage Cultural Landscapes: A Handbook for Conservation and Management*. *World Heritage Papers* 26, 2002.

Snead, James *Trails of Tradition: Movement, Meaning, and Place*. In *Landscapes of Movement: Trails, Paths, and Roads in Anthropological Perspective*, edited by James E. Snead, Clark L. Erickson, J. Andrew Darling, 42-60, Philadelphia: Penn Museum Press, 2009.

OPTIONAL READING:

Wilkinson, T. J. Chapter 1: Introduction, Approaches to Landscape Archaeology. In *Archaeological Landscapes of the Near East*, 1-14. , Tucson: University of Arizona Press, 2003.

Erickson, Clark L. Agricultural Landscapes as World Heritage: Raised Field Agriculture in Bolivia and Peru. In *Managing Change: Sustainable Approaches to the Conservation of the Built Environment*, edited by Jeanne-Marie Teutonico and Frank Matero, 181-204. 4th US/ICOMOS International Symposium Proceedings. Getty Conservation Institute in collaboration with US/ICOMOS. Oxford: Oxford University Press, 2003.

02/21 Fort Union National Monument- a brief history of archaeology, preservation and display

FOR DISCUSSION:

Jameson J., John H and W.J. Hunt. "National Park Service Reconstruction Policy and Practice." In *The Reconstructed Past: Reconstructions in the Public Interpretation of Archaeology and History*, edited by John H. Jameson Jr. Walnut Creek, CA: AltaMira Press, 2004.

Levine, Frances, William Westbury and Lisa Nordstrum. *A History Of Archeological Investigations at Fort Union National Monument*. Division of History, Southwest Cultural Resources Center, 1992.

Medley, Evan. "Particularly New Mexico's Monument": Place-Making at Fort Union, 1929-2014 PhD Dissertation, Arizona State University, 2016

Pitcaithley, Dwight T. The Third Fort Union: Architecture, Adobe, and the Army. *New Mexico Historical Review* 57, no. 2 (1982).

Utley, Robert M. Fort Union and the Santa Fe Trail. *New Mexico Historical Review* 36.1 (1961).

Wilson, Rex L. Archeology and Everyday Life at Fort Union. *New Mexico Historical Review* 40, no. 1 (1965).

Zhu, Liping. *From Ruins to a National Monument: Fort Union, New Mexico, 1891-1956*. New Mexico. (Chapter 1, skim rest)

Wheaton, Rod L. "Lessons Learned at Bent's Old Fort and Fort Union Trading Post." *The Reconstructed Past: Reconstructions in the Public Interpretation of Archaeology and History* (2004): 215. *Historical Review* 69, no. 1 (1994).

03/21 Mapping values, risk and threat

FOR DISCUSSION:

Demas, Martha and Neville Agnew, eds. 2012. *Valley of the Queens Assessment Report*, Vol. 1. Los Angeles: The Getty Conservation Institute.

http://www.getty.edu/conservation/publications_resources/pdf_publications/valley_queens.html. [Note: Read in particular "Summary statement of significance and principal threats" (in Part I), "Site setting, boundaries and components" (in Part I), "Appendix 2: History of Mapping" (in Part I), and "Assessment of Flash Flooding" (in Part V) while skimming rest of report]

Logan, David and Richard Mackay, "Inventories and Heritage Management: The Australian Experience," in Conservation Perspectives: The GCI Newsletter, Fall 2013
http://www.getty.edu/conservation/publications_resources/newsletters/28_2/inventories.html

Myers, David and Alison Dalgity. The Middle Eastern Geodatabase for Antiquities (MEGA): An Open Source GIS-Based Heritage Site Inventory and Management System. Change Over Time 2(2012):32-57.
http://www.getty.edu/conservation/our_projects/field_projects/jordan/mega_jordan_cot_article.pdf

Palumbo, Gaetano. Threats and Challenges to the Archaeological Heritage in the Mediterranean (Reader)

FOR REVIEW:

ICOMOS: Principles for the Recording of Monuments, Groups of Buildings and Sites (1996)
<http://www.icomos.org/charters/archives-e.pdf>

International Core Data Standard for Archaeological Sites and Monuments (standard adopted by CIDOC Archaeological Sites Working Group in 1995) in Documenting the Cultural Heritage, edited by Robin Thornes and John Bold. Los Angeles: J. Paul Getty Trust, 1998.
<http://archives.icom.museum/object-id/heritage/int.html>

OPTIONAL READING:

Trafficking Culture: Researching the global traffic in looted cultural objects Website:
<http://traffickingculture.org/>

UNESCO. Monitoring World Heritage. World Heritage Papers 10, 2002.

03/28 Stewardship and ownership of the past

FOR DISCUSSION:

Atalay, Sonya. Indigenous Archaeology as Decolonizing Practice. The American Indian Quarterly 30(3-4):280-310, 2006.

Chase, Arlen and Diane Chase. The Archaeology and Ethics of Collecting (Reader)

Fine, Kathleen. The Politics of 'Interpretation' at Mesa Verde National Park. Anthropological Quarterly 61(1988): 177-186.

Hollowell, Julie. Moral Arguments on Subsistence Digging (Reader)

Morehart, Christopher T. What If the Aztec Empire Never Existed? The Prerequisites

of Empire and the Politics of Plausible Alternative Histories. *American Anthropologist*, 114(2012):267–281.

Owens, Bruce McCoy. Monumentality, Identity, and the State: Local Practice, World Heritage, and Heterotopia at Swayambhu, Nepal. *Anthropological Quarterly* 75(2002):269-316.

Toner, Mike. NAGPRA at 20. *American Archaeology Winter (2010-2011)*:24-31.

OPTIONAL READING:

Fine-Dare, Kathleen. *Grave Injustice: The American Indian Repatriation Movement and NAGPRA*. Lincoln: University of Nebraska Press, 2002.

Fine-Dare, Kathleen S. Histories of the Repatriation Movement. In *Opening Archaeology: Repatriation's Impact on Contemporary Research and Practice*, edited by Thomas W. Killion, 29-55. Santa Fe: School of American Research, 2008.

Smith, John A. NAGPRA at 20: A Selective Annotated Bibliography, *Legal Reference Services Quarterly*, 31(2012): 1-36.

Penn Cultural Heritage Center Website: <http://www.pennchc.org/page/>

President's House Website: <http://www.ushistory.org/presidentshouse/history/index.htm>

04/04 Urban Archaeology-The Case of Cairo's Ayyubid Wall

Commented [m2]: I will add readings

04/11 Economic sustainability of archaeological

FOR DISCUSSION:

Deeben, Jos & Bert Groenewoudt. *Handling the Unknown: The Expanding Role of Predictive Modeling in Archaeological Heritage Management in the Netherlands* (Reader)

Fagan, Brian. *Looking Forward, Not Backward: Archaeology and the Future of the Past* (Reader)

Judge: *The South Carolina Heritage Trust Program: Fifteen Years of Archaeological Site Acquisition and Management* (Reader)

Sustainable Preservation Initiative Website: <http://sustainablepreservation.org/>

UNESCO. *Partnerships for World Heritage Cities: Culture as a Vector for Sustainable Urban Development*. World Heritage Center, 2002.

On Ruins

Woodward, Christopher. In Ruins. London: Vintage, 2002.

Fort Union: References

History

Harrison, Laura S. and James E. Ivey. Of A Temporary Character. An Historic Structure Report and Historical Base Map of First Fort, Second Fort, and Arsenal, Fort Union, New Mexico. Division of History, Southwest Cultural Resources Center, 1992.

Levine, Frances, William Westbury and Lisa Nordstrum. A History Of Archeological Investigations at Fort Union National Monument. Division of History, Southwest Cultural Resources Center, 1992.

Medley, Evan. "Particularly New Mexico's Monument": Place-Making at Fort Union, 1929-2014 PhD Dissertation, Arizona State University, 2016.

Utley, Robert Marshall. Fort Union National Monument. Vol. 35. Government Printing Office, 1985.

Zhu, Liping. Fort Union National Monument: An Administrative History. Division of History, Southwest Cultural Resources Center, 1992.

Conservation

Oliva, Leo E. Fort Union and the Frontier Army in the Southwest: A Historic Resource Study Fort Union National Monument Fort Union, New Mexico. Southwest Cultural Resources Center, Professional Papers No. 41, Division of History National Park Service, Santa Fe, New Mexico. (1993)

<https://www.nps.gov/foun/learn/historyculture/upload/TOME.pdf>

Hartzler, Robert. Holding down the forts: the army, adobe, and preservation. CRM Cultural resource management 22, no. 6 (1999): 55-58.

Hartzler, Robert L., and Anne B. Oliver. Learning from the site: evolution of the Fort Union strategic preservation plan. In Terra 2000: 8th international conference on the study and conservation of earthen architecture, Torquay, Devon, UK, May 2000. Preprints, pp. 39-45. James & James, 2000.

Matero, Frank G. A programme for the conservation of architectural plasters in earthen ruins in the American Southwest: Fort Union National Monument, New Mexico, USA. Conservation and management of archaeological sites 1.1 (1995): 5-24.

Myers, Harry C. Preserving adobe ruins. CRM bulletin 20, no. 10 (1997): 12.

Oliver, Ann, and R. Hartzler. Understanding the Deterioration of Adobe Walls: Fort Union National Monument, New Mexico, USA. Terra 2000 (2000): 8th International Conference

Oliver, A., and R. Hartzler. Working Preservation Action Plan for the Adobe Ruins at Fort Union National Monument, New Mexico. Research and Development Project, Final Report (1996).

Richert, R. and R. Gordion Vivian. Ruins Stabilization on the Southwestern United States. Washington, DC: National Park Service, 1974. (Skim)

Landscape

Freitag, Amy L. Cultural Landscape Study of Fort Union National Monument. (Masters Thesis). University Of Pennsylvania, Philadelphia, PA. 1994

Johnson, Robert Britten. Geologic map of the Fort Union quadrangle, Mora County, New Mexico. No. 1164. 1974. <http://pubs.er.usgs.gov/publication/gq1164>

Western Forts, Fort Union, The Santa Fe Trail

<http://www.nps.gov/foun/index.htm>

<http://www.kansasheritage.org/research/sft/ft-union.htm>

<https://www.youtube.com/watch?v=CMIPzhJt8pQ>

http://www.nps.gov/parkhistory/online_books/fosc/forts.pdf

http://www.fws.gov/refuge/Rio_Mora/about.html#

https://muse.ihu.edu/login?auth=0&type=summary&url=/journals/journal_of_military_history/v069/69.3state.html

http://dla.library.upenn.edu/dla/franklin/record.html?q=American%20Forts%3A%20Architectural%20Form%20and%20Function&id=FRANKLIN_427011&

<http://www.santafetrail.org/>

<http://www.nps.gov/safe/index.htm>

file:///C:/Users/matero/Downloads/NPS_1965_CommitteeReportonWesternMilitaryForts.pdf

NPS Cultural Resource Documents

http://npshistory.com/cultural_resources.htm

Harpers Ferry Center, National Park Service. The National Parks: Shaping the System. Washington DC, 2005.

General References

Archaeology

Ashmore, Wendy. *Discovering our past : a brief introduction to archaeology*. 4th ed. Boston : McGraw-Hill, c2006.

Preucel, Robert and Stephen Mrozowski eds. *Contemporary Archaeology in Theory: The New Pragmatism* [2nd Edition], New York: Wiley, 2010.

Willey, Gordon R. and Jeremy A Sabloff. *A History of American Archaeology*. London: Thames and Hudson, 1993.

Archaeological Site Conservation and Management

Agnew, Neville and Janet Bridgland, eds. *Of the Past, For the Future: Integrating Archaeology and Conservation*. Los Angeles: The Getty Conservation Institute, J. Paul Getty Trust, 2006.

Ashurst, John, ed. *The Conservation of Ruins*. Oxford: Butterworth-Heinemann, 2007.

Avrami, Erica, Randall Mason, and Marta De la Torre. *Values and Heritage Conservation: Research Report*. Los Angeles California: The Getty Conservation Institute, 2000.

Berducou, Marie. *Introduction to Archaeological Conservation*. In *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, edited by N. P. Stanley Price, et al. Los Angeles: The Getty Conservation Institute, J. Paul Getty Trust, 1996.

Bintliff, John et al. eds. *A Companion to Archaeology*. Malden (MA) & Oxford: Blackwell, 2004.

Black, Stephen L. and Kevin Jolly. *Archaeology by Design. Archaeologist's Toolkit 1*. Walnut Creek, CA: Altamira, 2003.

Brody, Neil and Colin Renfrew. *Looting and the World's Archaeological Heritage: The Inadequate Response*. *Annual Review of Anthropology* 34(2005): 343-361.

Champion, Erik 2011 *Playing with the Past*. London: Springer.

Cleere, Henry ed. *Approaches to the Archaeological Heritage*. Cambridge: Cambridge University Press, 1984.

Cleere, Henry ed. *Archaeological Heritage Management in the Modern World*. London: Unwin Hyman, 1989.

de la Torre, Marta, ed. *Assessing the Values of Cultural Heritage: Research Report*. Los Angeles: The Getty Conservation Institute, 2002.

de la Torre, Marta, ed. *The Conservation of Archaeological Sites in the Mediterranean Region. An International Conference Organized by the Getty Conservation Institute and the J. Paul Getty Museum, 6-12 May 1995*. Los Angeles: The Getty Conservation Institute, 1997.

Demas, Martha, compiler. "[GCI Conservation and Management of Archaeological Sites Bibliography](http://www.getty.edu/conservation/publications_resources/pdf_publications/conserv_mngmnt_arch_sites_biblio.html)." Los Angeles: The Getty Conservation Institute, 2003. The Getty Conservation Institute. Project Bibliography Series. Conservation and Management of Archaeological Sites. http://www.getty.edu/conservation/publications_resources/pdf_publications/conserv_mngmnt_arch_sites_biblio.html

Demas, Martha. Summary of Charters Dealing with the Archaeological Heritage. In *The Conservation of Archaeological Sites in the Mediterranean Region*, ed. M. de la Torre, 151-153. Los Angeles: The Getty Conservation Institute, J. Paul Getty Trust, 1997.

Dorochoff, Nicholas *Negotiation Basics for Cultural Resource Managers*. Walnut Creek: Left Coast Press, 2007.

Drennan, Robert and Santiago Mora, eds. *Archaeological Research and Heritage Preservation in the Americas*. Washington, D.C.: Society for American Archaeology, 2002.

Hardesty, Donald L. and Barbara J. Little. *Assessing Site Significance: A Guide for Archaeologists and Historians (Second Edition)*. Walnut Creek, CA: Altamira, 2009.

Holtorf, Cornelius. *From Stonehenge to Las Vegas: Archaeology as Popular Culture*. Walnut Creek: Altamira, 2005.

Information Management for the Conservation of Heritage Places. Los Angeles: The Getty Conservation Institute, 2007. http://www.getty.edu/conservation/publications/pdf_publications/recordim.html

Jokiheto, Jukka. *A History of Architectural Conservation*. Oxford: Butterworth-Heinemann, 1999.

King, Thomas F. *Cultural Resource Laws and Practice*. Walnut Creek: Altamira Press, 2013.

King, Thomas F. *Our Unprotected Heritage: Whitewashing the Destruction of Our Cultural and Natural Environment*. Walnut Creek: Left Coast Press, 2009.

King, Thomas F. *Thinking About Cultural Resource Management: Essays from the Edge*. Walnut Creek: AltaMira Press, 2002

Lynott, Mark J. and Alison Wylie, eds., *Ethics in American Archaeology*. 2nd revised edition. Washington, D.C.: Society for American Archaeology, 2000.

Mason, Randall and Erica Avrami. *Heritage Values and Challenges of Conservation Planning*. In *Management planning for archaeological sites*, edited by J.M. Teutonico and G. Palumbo. Los Angeles: The Getty Conservation Institute, J. Paul Getty Trust, 2002.

Matero, Frank et al. *Archaeological site conservation and management, an appraisal of recent trends*. *The Conservation and Management of Archaeological Sites*. 2(1998):129-142.

McManamon, Francis P., Andrew Stout, Jodi A Barnes, eds. *Managing Archaeological Resources: Global Context, National Programs, Local Actions*. Walnut Creek: Left Coast Press, 2008.

Meskell, Lynn, ed. *Archaeology Under Fire: Nationalism, Politics and Heritage in the Eastern Mediterranean and Middle East*. London: Routledge, 1998.

Neumann, Thomas W., and Robert M. Sanford. *Cultural Resources Archaeology: An Introduction*. (second edition) AltaMira Press, Walnut Creek, California, 2010.

Pedeli, Corrado and Stefano Puglia. *Conservation Practices on Archaeological Excavations, Principles and Methods*, translated by Erika Risser. Los Angeles: The Getty Conservation Institute. The J. Paul Getty Trust, 2013 (2002).

Smith, George, Phyllis Mauch Messenger, Hilary Soderland, eds. *Heritage Values in Contemporary Society*. Walnut Creek: Left Coast Press, 2010.

Smith, Laurajane. *Archaeological Theory and the Politics of Cultural Heritage*. London: Routledge, 2004.

Stanley Price, N. *Conservation on Archaeological Excavations*, edited by N.P. Stanley Price. Rome: ICCROM, 1995.

Sullivan, Sharon. *A Planning Model for the Management of Archaeological Sites*. In *The Conservation of Archaeological Sites in the Mediterranean Region*, ed. M. de la Torre, 15-26. Los Angeles: The Getty Conservation Institute, J. Paul Getty Trust, 1997.

Swidler, N. et al., *Native Americans and Archaeologists: Stepping Stones to Common Ground*. Walnut Creek, CA: Altamira, 1997.

Teutonico, J.M. and G. Palumbo, eds. Management Planning for Archaeological Sites. Los Angeles: The Getty Conservation Institute, J. Paul Getty Trust, 2002. See especially the Annotated Bibliography.

Watkins, Joe. Through Wary Eyes: Indigenous Perspectives on Archaeology. Annual Review of Anthropology, Vol. 34: 429-449, 2005.

Woodward, Christopher. In Ruins. London: Vintage, 2002. An entertaining popular read.

Websites

Center For Heritage and Society (UMass Amherst)
<http://www.umass.edu/chs/resources/index.html>

ICOMOS-Charters and other doctrinal texts
<http://www.icomos.org/en/charters-and-texts>

ICOMOS-International Committee on Archaeological Heritage Management
<http://www.icomos.org/icahtm/>

Learning Sites Inc. The Leader in Reliable Archaeological Visualizations for Interactive Education and Research
[http://www.learningsites.com/Mesa Verde National Park](http://www.learningsites.com/Mesa_Verde_National_Park)
<http://www.nps.gov/meve/index.htm>

Southwest Crossroads
School of American Research
<http://www.southwestcrossroads.org/index.php>

Getty Conservation Institute
<http://www.getty.edu/conservation/>
Getty Conservation Institute: Publications and Resources
http://www.getty.edu/conservation/research_resources/

Global Heritage Fund
<http://globalheritagefund.org/>

UNESCO World Heritage Centre website:
<http://whc.unesco.org/archive/convention-en.pdf>

UNESCO. Operational Guidelines for the Implementation of the World Heritage Convention. World Heritage Center, 2008. <http://whc.unesco.org/archive/opguide08-en.pdf>
Criteria for World Heritage Listing (UNESCO):
<http://whc.unesco.org/en/criteria/>

The Global Strategy (UNESCO):

<http://whc.unesco.org/en/globalstrategy/>

Virtual Reality in Archaeology: Virtual Reconstructions by Dennis Holloway

Native American Places in Virtual Reality (Southwest computer modeling and animation)

<http://www.dennisrhollowayarchitect.com/VirtualRealityArchaeology.html>

World Monuments Fund

<http://www.wmf.org/>