

NATIONAL PARK SERVICE

2011 BOARD REPORT

NATIONAL CENTER FOR PRESERVATION
TECHNOLOGY & TRAINING



LEE H. NELSON HALL
NATCHITOCHEs, LA

REPORT

TO THE ADVISORY BOARD OF THE
NATIONAL CENTER FOR PRESERVATION TECHNOLOGY AND TRAINING

NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF INTERIOR

NATCHITOCHEs,
LOUISIANA

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This report is published by the Preservation Technology and Training Board, established under Title XVI, Section 470 of Public Law 102-575, October 30, 1992. The purpose of the Board is to advise the Secretary of the Interior regarding the operations of the National Center for Preservation Technology and Training. The specific duties of the Board are to (1) provide leadership, policy advice, and professional oversight to the Center; (2) advise the Secretary on priorities and the allocation of grants among the activities of the Center; and (3) submit an annual report to the President and the Congress.

The National Center for Preservation Technology and Training (NCPTT) is an office of the National Park Service, established under the National Historic Preservation Act, as amended, which states,

The purposes of the Center shall be to —

- 1) develop and distribute preservation and conservation skills and technologies for the identification, evaluation, conservation, and interpretation of prehistoric and historic resources;*
- 2) develop and facilitate training for Federal, State and local resource preservation professionals, cultural resource managers, maintenance personnel, and others working in the preservation field;*
- 3) take steps to apply preservation technology benefits from ongoing research by other agencies and institutions;*
- 4) facilitate the transfer of preservation technology among Federal agencies, State and local governments, universities, international organizations, and the private sector; and*
- 5) cooperate with related international organizations including, but not limited to the International Council on Monuments and Sites, the International Center for the Study of Preservation and Restoration of Cultural Property, and the International Council on Museums.*

ARCHITECTURE & ENGINEERING

NCPTT's Architecture & Engineering program seeks to provide preservation practitioners with unique training opportunities and innovative research in the areas of building science, disaster preparedness, and environmental sustainability.

PARTNERSHIPS: REACHING A LARGER AUDIENCE

The National Center partners with preservation organizations, non-profit preservation groups, and other National Park Service offices to leverage its research and training capabilities. In FY2011, NCPTT joined with the Association for Preservation Technology (APT) to offer a workshop entitled, "Envelope Performance Testing, Modeling and Monitoring," October 6–7, 2010, in Denver, Colorado. This workshop featured an overview of emerging analysis, simulation and measuring tools used in evaluating the energy performance of historic buildings. The National Center also partnered with APT and the Presidio Trust to offer "Preserving Engineering: Nondestructive Evaluation Methods for Historic Structures," November 5-6, at the Presidio in San Francisco, California. This workshop covered the concepts, theory and applications of nondestructive test methods for evaluating historic building materials and structural systems.

Recognizing that the future of the preservation profession is seeded in the next generation of practitioners, NCPTT is working with universities to enhance the state of pre-professional training in the field. In FY2011, the National Center hosted and funded the initial meeting of the Southeastern College Art Conference (SECAC) Consortium for Historic Preservation and Conservation Studies. SECAC is an academic consortium consisting of twelve universities located across the southeastern United States. Members of the consortium met with NCPTT staff to discuss development of a preservation curriculum that would supplement courses at SECAC architecture schools. The goal of this project is to create an intercollegiate program that provides students with a state-of-the-art education in preservation theory, technology, and design—drawing experience from the faculty of each of school as well as professionals in government and private practice.



Participants discuss workshop on the porch of Pitot House, New Orleans, LA.

Incorporating modern mechanical systems into historic buildings can involve complex decisions, fraught with difficult choices. In the spring of 2011, NCPTT partnered with the Louisiana Landmarks Society and Tulane University School of Architecture to offer a workshop entitled, “Preservation Re-engineering,” on implementing 21st century low-energy environmental systems in 19th century buildings. The workshop, held at the historic Pitot House in New Orleans, Louisiana, exposed participants to the decision making process inherent in designing and implementing low impact environmental systems for historic buildings.

PREPARING FOR DISASTER

The impact of Hurricane Katrina in 2005 served as a “wakeup call” for many, including the historic preservation community. Since that catastrophic event, NCPTT has been committed to providing preservationists and emergency managers with the knowledge and resources they need to prepare for disaster and respond appropriately when it affects cultural heritage. In FY2011, the National Center organized and participated in a session at the George Wright Society Conference held March 14-18, 2011, in New Orleans. The session brought together a panel of experts to help identify risks to heritage resources in coastal areas, share on-going disaster planning efforts, and discuss pre-disaster mitigation strategies. The goal of the session was to create a larger dialog with emergency management professionals on the importance of integrating cultural resource protection into disaster preparedness planning and response.

BUILDING CAPACITY THROUGH INTERNAL PARTNERSHIPS

In FY2011, the Architecture & Engineering program sought to increase its engagement of other units in the National Park Service (NPS) and expand its utility to the entire agency.

Partnering with the Cane River National Heritage Area, NCPTT convened a roundtable discussion on urban ecology on November 3, 2011, in Natchitoches, Louisiana. Urban ecology promotes an ecosystems approach in understanding the nexus formed between natural and cultural systems in sustainable communities. Participants in the November roundtable discussed creating an urban ecology network where case studies of best and worst practices could be shared to edify community planners, architects, and developers alike.

In January 2011, the National Center convened a roundtable meeting of Washington NPS cultural resources staff and other interested parties to discuss activities related to sustainability in historic preservation. The goal of the Washington meeting was to improve communications and coordination of efforts on this topic. Participants discussed their recent work including the Park Service’s Project Sustainability Checklist, the development of new guidance on meeting sustainability and historic preservation goals, and offering LEED workshops designed for cultural resource specialists.

Each year, the threat of budget reductions reinforces the need to utilize cost-saving technologies to advance the National Center’s mission. In March, NCPTT staff members Ed FitzGerald and Jason Church travelled to Kentucky to film a workshop put on by the Pine Mountain Settlement School, Kentucky Heritage Council, and NPS Historic Preservation Training Center. This week-long workshop covered log care and repair techniques as participants got their hands dirty preserving a Civilian Conservation Corps-built ranger station. Footage collected from this workshop will be assembled in a series of instructional videos, allowing park staff and the public access to essential skills. This project serves as a prototype for capturing and disseminating information on a small budget.



Ed FitzGerald films a worker notching a log during a workshop in Putney, KY.

In May, 2011, NCPTT partnered with the Washington Office of the National Park Service and the [National Conference of State Historic Preservation Officers](#) to offer “Green Preservation: A LEED Technical Review and Exam Preparation Workshop” at the Hall of States in Washington, DC. This three-day workshop prepared participants to take the LEED Green Associate Exam and presented them with real-world case studies of historic preservation projects pursuing LEED certification. Participants represented the National Park Service, General Services Administration and the National Trust for Historic Preservation.

The Stephen T. Mather Training Center collaborated with Cane River Creole National Historical Park (NHP) and the National Center to hold a course on “Preservation and Treatment of Park Cultural Resources” in Natchitoches in September, 2011. This forty-hour course was open to Facility Managers and Chiefs of Maintenance, the front-line stewards for park cultural resources. The curriculum focused on critical knowledge and skills these professional must possess in order to provide for the preservation, treatment, and maintenance of the cultural resources they oversee. The course was offered at NCPTT with a field day at Cane River Creole NHP, using the park as a laboratory for applying the knowledge and skills presented in classroom sessions.

RESEARCH AND FIELD PROJECTS

In the summer of 2011, NCPTT concluded its research entitled, *A Comparative Study of Commercially Available Paint Strippers*, which evaluated the performance of six products for removing paint from low and medium-fired historic brick. After analyzing the data, the National Center presented its research in Denver, Colorado, at the APT Annual Conference in October. With the completion of this study, testing began on evaluating the durability of limewash recipes to expand upon earlier work done on this traditional finish by NCPTT’s Sarah Jackson. Additional lime sources are being examined along with the effectiveness of additional coats.



Jennifer Mui using an infrared camera during an energy audit at Oakland Plantation, Natchez, LA.

In 2011, Jackson completed the requirements for certification by the Infrared Training Center as a Level I Thermographer. This qualification comes in addition to a Building Analyst certificate that she earned from the Building Performance Institute in 2010. These certificates qualify Jackson to oversee NCPIT's research in using energy audits to improve the energy efficiency of historic buildings. Over the summer, she worked with Architecture & Engineering intern Jennifer Mui to perform an energy audit of the historic Seed House at Oakland Plantation, part of Cane River Creole NHP. Operational changes for the building may be required in the future as part of the NPS Green Parks Plan and data gathered through the energy audit will help identify areas for improvement and serve as a baseline from which to measure success.

MATERIALS CONSERVATION

NCPTT's Materials Conservation program works to bridge the gap between laboratory science and real-world historic preservation applications.

CRUDE OIL AND CULTURAL HERITAGE

In the spring of 2010, NCPTT staff mobilized in response to the Deepwater Horizon Oil Spill in the Gulf of Mexico. The tragedy of this event shocked many and as response efforts escalated, gaps in understanding of how to treat affected cultural heritage became apparent. While threats posed by crude oil to the natural environment are generally acknowledged, its potential to damage archeological or architectural materials has not been widely studied.

The National Center has been leading the way in research on mitigating damage to archeological materials caused by crude oil. During the summer of 2011, NCPTT intern Erin White undertook a study examining the effectiveness of six different oil removal products on bone and shell. She evaluated the products based on their ability to remove oil without affecting sensitive archeological material. Other considerations included the ease of use and potential environmental toxicity of the cleaners. Results of this study will serve as a guide to archeologists and a basis for future research.



Erin White takes color measurements of bone samples in NCPTT laboratories, Natchitoches, LA.

NCPTT used the literature review undertaken for this research as a launching point to develop general guidance for the care of archeological materials contaminated by oil spills in marine environments. This guidance, entitled “Protecting Archeological Objects Contaminated with Crude Oil,” includes treatments for shell, bone, ceramics, glass, metal and wood, and can be accessed on NCPTT’s [website](#).

In addition to archeological heritage, oil spills can have an adverse effect on the built environment. This past year, NCPTT partnered with the University of Texas at Austin to establish a methodology for evaluating the effectiveness of cleaners used to remove oil from historic masonry. UT graduate

student, Payal Vora tested six products for cleaning weathered and un-weathered oil from historic brick as part of her master's thesis research (available through the University of Texas Library [website](#)). NCPIT expanded Vora's work during the summer with the help of intern Katherine Langdon.



Katherine Langdon compares poultice recipes for crude oil removal at Fort Livingston, Grand Isle, LA.

The National Center continues developing methods for evaluating and assessing the adverse effects of oil spills and other disasters on cultural heritage. Mary Striegel, Chief of NCPIT's Materials Conservation program, is partnering with Dave O'Brien at the City University of London's Center for Cultural Policy and Management to better understand economic methods for the valuation of damage resulting from disasters. NCPIT also continues its work in the Gulf of Mexico, monitoring conditions at historic Fort Livingston, one of the structures affected by the Deep Water spill.

HONORING NATIONAL HEROES

National Cemeteries are the final resting places of America's military heroes nationwide. They encompass a wide range of cultural resources, including sites, landscapes, monuments, and structures. Efforts to maintain a visual appearance that honors veterans while preserving the material fabric of their memorials are equally important. To aid in these efforts, NCPIT released its recommendations for cleaning government-issued marble headstones. This [document](#) is the culmination of seven years of research that compared five different commercially available cleaners. Testing was conducted under a mixture of environmental conditions in cemeteries across the country and in laboratories at NCPIT and the Harvard School of Engineering and Applied Sciences. The recommendations describe methods that can remove biological growth and soiling and delay re-growth of microorganisms.



Jason Church tests cleaning solutions on headstones at Alexandria National Cemetery, Pineville, LA.

NCPIT has also played an active role in the NPS National Cemetery Task Force. The Task Force recently revised maintenance policies for the operation of fourteen National Cemeteries under Park Service care. This work led to Director's Order 61, released in July 2010, and the forthcoming companion Reference Manual 61.

COMBATING RUST

Ornamental iron railings and fences are a common feature on historic structures. However, exposure to the elements can cause these character defining elements to deteriorate over time. Over the past year, NCPIT has undertaken research to evaluate the effectiveness of chemical rust converters for treatment of ornamental iron. Materials conservator Jason Church tested five types of commercially available converters and a custom blend formulated for conservation use. The chemical treatments were applied to samples and monitored while undergoing accelerated weathering. Results of this study were presented at the annual meeting of the American Institute for Conservation in May, 2010, and a full report is forthcoming.

NCPIT is expanding its comparative study of rust converters to include outdoor natural and accelerated weathering in our newly developed weathering facilities. This past summer, Materials Conservation intern Dennis Gibson installed a wireless weather station and outdoor racks for samples undergoing natural weathering on the roof of NCPIT's Lee H. Nelson Hall. This fall, a solar concentrator that will allow for accelerated outdoor weathering will be installed on the campus of NCPIT's host institution, Northwestern State University.



Ornamental Iron Workshop participants practice riveting techniques in Savannah, GA.

Drawing from NCPIT's study of rust converters and other conservation research, the National Center offered a two-day training workshop on the conservation of ornamental iron, May 18–19, 2011, in Savannah, Georgia. The event attracted fifteen students, contractors, government employees, and maintenance managers. Participants were exposed to a wide range of skills, from documentation and cleaning to rust conversion and painting. A similar course will be held October 7–8, 2011, in Bloomington, Indiana.

CATERING TO UNDERSERVED COMMUNITIES

NCPIT continues to offer products to underserved communities. As part of the National Park Service Latino Initiative, NCPIT produced two Spanish language videos on cemetery preservation methods. The videos, "[Recolocación Básica de Monumentos](#)" and "[Limpieza Básica para Monumentos](#)," are available on NCPIT's website. Also, NCPIT produced a [video](#) capturing the traditions surrounding burial practices of African-American and Creole community members in the Cane River region as part of our cemetery preservation efforts.

HISTORIC LANDSCAPES

Preservation of historic landscapes includes protection and treatment of both natural and man-made resources. In FY2011, the Historic Landscape program focused on projects that addressed documentation, maintenance and protection of these varying resources.

HERBICIDES AND THE BUILT ENVIRONMENT

From vines and grasses to invasive species, unwanted vegetation can plague the grounds of historic sites. Resource managers and homeowners alike need methods to control weeds and plants without causing damage to surrounding historic features. Chemical methods are often used to control vegetation. But what are the potential interactions between herbicides and masonry materials? Are other methods available that are safer or better at targeting specific vegetation?

Caitlin Oshida is helping NCPTT answer these questions. Oshida, a graduate student at the University of Georgia, began research on the use of herbicides at cultural sites as a summer intern at NCPTT in 2010 and continued her exploration of the topic this year as part of her master's thesis. Oshida completed experiments on the effects of the herbicides Roundup® and Garlon®4 on brick, limestone, concrete, and granite materials. Her studies show that herbicides can have negative effects, including pitting and efflorescence, on stone and masonry.

NCPTT is experimenting with non-chemical ways to control vegetation using a hand-held, filtered microwave system. A prototype design of the system is based on the concept that specific microwave wavelengths can disrupt cell walls, resulting in the plant's death. Users are able to operate the system in complete safety as it generates less radiation than a conventional microwave oven. Heat generated by the radiation is filtered out to prevent damage to sensitive historic materials. Further research of the system is underway in partnership with Northwestern State University.

DOCUMENTING HISTORIC LANDSCAPES

Compiling thorough documentation is the first step in protecting historic landscapes. While a number of publications focus on nominating landscapes for historic registers or creating detailed cultural landscape reports, these do not contain the “nuts and bolts” information needed to research and document sites. NCPTT is working to fill this gap by providing a “how to” guide for documenting historic landscapes.



Derek Linn documents the landscape at Hodges Gardens State Park, Florien, LA.

A two-fold landscape documentation project began during the summer of 2011 with the help of intern Derek Linn, a recent graduate of the Bachelor of Landscape Architecture degree program at Arkansas State University. He researched and documented the design history of Hodges Gardens State Park, a Mid-century style landscape in Florien, Louisiana. Using a variety of resources including the internet, archives, and oral history interviews, he pieced together information about the garden's design history. Linn recorded the documentation process in real time on the blog, "[Exploring Hodges Gardens](#)." The next step of the project is to incorporate his experience at Hodges as a case in the "how to" guide. The final product will be available in hard copy and on the NCPTT website.

TEACHING HISTORIC LANDSCAPE MAINTENANCE

Maintenance workers charged with caring for cultural landscapes are faced with the complex challenge of integrating preservation practices with traditional horticultural techniques, while balancing the retention of historic integrity with the demands of contemporary site usage. Yet all too often, these workers lack an understanding of their role in protecting historic features.

In FY2011, NCPTT and the Olmsted Center for Landscape Preservation hosted a second roundtable discussion on the creation of a landscape preservation maintenance curriculum to address this deficiency. These discussions included site managers from the National Park Service and other organizations, as well as maintenance supervisors, landscape architects and educators. With funding from NCPTT, the Olmsted Center built upon ideas generated during the roundtable meetings and created a framework for the education program. The draft curriculum includes three core units incorporating the knowledge and skills essential to properly understand and care for all historic landscape resources. An optional specialization unit includes topics related to a variety of different landscape types, ranging from agricultural to ornamental landscapes. The next step in this project will be development of the first unit and an accompanying hands-on workshop.



The Olmsted Center's Jamie McGuane instructs a tree preservation workshop in Fredericksburg, VA.

NCPTT also partnered with the Olmsted Center to host a three-day historic tree preservation workshop at the George Washington Birthplace National Monument in Fredericksburg, Virginia. The workshop attracted thirty participants from across the country and addressed topics that included condition assessment, hazardous tree identification, and replacement strategies.

MOURNING GLORY: PRESERVING HISTORIC CEMETERIES

Historic cemeteries comprise some of our country’s most significant historic landscapes. Yet cemetery preservation efforts focus almost entirely on built features with little understanding or preservation of the landscape as a whole.

Through a cooperative agreement with NCPTT, the Massachusetts Department of Conservation and Recreation produced “Mourning Glory: Preserving Historic Cemeteries” in FY2011. The publication provides guidance on cemetery landscape preservation topics such as establishing a preservation strategy, educating the public about character, and implementing best practices.

“Mourning Glory” is the tenth issue in a series, called *Terra Firma*, which addresses landscape preservation issues ranging from protection of historic roads to caring for mature trees. As part of the cooperative agreement, NCPTT both funded and contributed “best practice” sections on maintaining decorative iron fences and cleaning headstones. With further financial support from NCPTT, the Massachusetts Department of Conservation and Recreation will host a one day training workshop addressing topics presented in the publication. The final publication will be released at the November 18, 2011 workshop and will be available soon after on the NCPTT website.



WIKIPROJECT CULTURAL LANDSCAPES

This past summer, Addy Smith-Reiman joined the staff of NCPTT as an intern in a joint project between the Architecture & Engineering and Historic Landscapes programs. Smith-Reiman spearheaded a new initiative to grow the [cultural landscapes section](#) of Preservopedia.org, a wiki knowledge base for preservationists. To date the initiative has garnered the support of the Society for College and University Planning and The Cultural Landscape Foundation. With help from these partners, staff and volunteers will generate a library of project case studies to share lessons and best practices in cultural landscape preservation.

PTT GRANTS PROGRAM

As mandated by the National Historic Preservation Act, NCPTT supports the research, development, and transfer of technologies to the field of preservation through its Preservation Technology and Training Grants program. Each year, the National Center awards grants of up to \$25,000 for innovative research, unique training opportunities, and publications about preservation technology. Universities, non-profit organizations, and federal, state, and local agencies are eligible for these awards, which require in-kind or cash matches to leverage the PTT Grant funds. The deadline for grant submissions falls in mid-October each year.

2011 PTT GRANT AWARDS

In FY2011, NCPTT announced thirteen grant awards selected from a pool of thirty-four complete applications. These grants, totaling \$285,000, leveraged matches of \$490,100 in cash and in-kind services. Recipients included:

Understanding Traditional and Modern Paints and Stains for Exterior Wood: The Association for Preservation Technology will develop selection guidelines on paints and stains for extending the life of exterior historic wood materials. (\$25,000)

Development of Life-Cycle Assessment Charts for Preservation and Rehabilitation (LCA-PR) of historic structures: Clemson University researchers will extend structural engineering analysis techniques to develop Life-Cycle Assessment charts in order to predict the lifetime of historic structures. (\$25,000)

Permanent Conditions Monitoring to Validate the Energy Design Models: The Georgia Department of Natural Resources will partner with researchers to collect data at an historic site in order to validate computer models on building energy performance. (\$11,000)

Archeological Survey Technologies, Data Integration, and Applications (ASTDA) Workshop and Seminar: Archeologists at Brown University will host workshops that advance the latest archeological survey techniques. (\$25,000)

Practical Applications of Low-cost Digital Photogrammetric Methods for Preservation Documentation: The Georgia O'Keeffe Museum staff will evaluate the practical applications of digital photogrammetric methods for preservation documentation at Georgia O'Keeffe's historic home and studio at Abiquiu and Ghost Ranch, New Mexico as a case study. (\$25,000)

Raman Spectroscopy Workshop and Database Training for the Preservation Community: Conservation scientists at the Philadelphia Museum of Art will offer a workshop on Raman Spectroscopy and aid in development of a Raman spectral database for identifying cultural materials and treatments. (\$12,000)

New York State Energy Conservation Code Compliance Training for Historic Properties: Staff of the Preservation League of New York State will create a training program tailored for historic property owners on compliance with the state's energy code. (\$25,000)

An Innovative Educational Game Strategy for Conservation and Preservation: Researchers at the Rochester Institute of Technology will create a working example of an educational role playing computer game to teach preservation and conservation. (\$25,000)

Comprehensive Understanding of Archeological Magnetism and Instrumentation:

Archeologists at the University of Arkansas will undertake research to improve the knowledge obtained from archeological magnetism studies. (\$18,000)

pXRF Guidelines for Pesticide Residue Survey and Removal Evaluation on Textiles:

University of Arizona researchers will use pXRF to analyze a Navajo textile collection known to be contaminated with heavy metal pesticides in order to develop guidelines for pesticide residue surveys and treatments. (\$25,000)

LiDAR Surveyor: Automated Extraction of Archeological Features from Light Detection and Ranging (LIDAR) Imaging Data:

Staff at the University of Iowa Office of the State Archeologist will develop automated methods to improve the identification of archeological features, such as burial mounds, using Light Detection and Ranging (LIDAR) Imaging Data. (\$22,000)

Dendrogeomorphological Investigation of Earthwork Stability at Poverty Point SHS,

Louisiana: Researchers from the University of Louisiana at Monroe will use novel methodology based on tree growth rings to evaluate the stability of earthworks at Poverty Point State Historic Site in Louisiana. (\$22,000)

Austin Historical Survey MOBILE: Optimizing a Survey Web Tool for Data Collection in the

Field: University of Texas at Austin researchers will develop and optimize a web tool to survey historic resources in the field. (\$25,000)



A PTT Grant was awarded to the University of Arizona to analyze contaminated Navajo textiles.

COMMUNICATIONS AND INFORMATION TECHNOLOGY

MOBILE APPLICATION DEVELOPMENT

The rapid proliferation of mobile devices such as smartphones and tablet computers featuring GPS, high-resolution cameras, compasses, and long battery life provides an opportunity for the development of applications to serve the preservation community. NCPTT has continued investing in mobile information technology projects with the goal of developing a suite of simple mobile apps to help preservation professionals collect and analyze data on the go. While current projects focus on Apple's iOS platform, NCPTT plans to port apps to the Android platform in the future.

The Northwestern State University College of Business and the National Center have partnered on a grant application to develop a year-long course in mobile application development. If the grant is successful, NCPTT will assist with curriculum design and the setup of a mobile laboratory. The National Center will fund internships available to students who successfully complete the course to help develop preservation applications.

ERS: EMERGENCY RESPONSE AND SALVAGE

The National Institute for Conservation and NCPTT partnered to develop an iPhone and iPod Touch app modeled after the Emergency Response and Salvage Wheel. The original project provides a guide to salvaging collections damaged in disasters. The app version, named Emergency Response and Salvage (ERS), keeps the information at the fingertips of collections managers and the general public. Submission to the Apple App Store is underway and after approval, ERS is expected to be available for download by the end of 2011.

LANDSCAPES

NCPTT has been developing an app titled Landscapes, which allows people to inventory and record the condition of historic trees, vegetation, and other features in an historic landscape. Data on the health of tree components, GPS locations of features such as grave markers, photographs, field notes and other features will equip landscape professionals with a unique and useful management tool. After testing, the original version of this app was determined to be too complex. A thorough redesign has made using app much easier and the ability to synchronize data has been added. The app will be finished by the end of the calendar year.



SITES

NCPTT and the NPS Southeast Archeological Center (SEAC) have been collaborating on an iPad app for rapid condition assessment of archeological sites. This project is based in part on archeological site vulnerability assessment work previously conducted with the Louisiana Army National Guard and on current paper-based surveys in use at SEAC. This app is currently in the early design stages and will be further developed in 2012.

NCPTT WEBSITE

WEBSITE STATISTICS	
Total Pageviews	4,759,377
Total Visits	753,398
Unique Visits	127,843
Avg. PV/Visitor	6.47

In FY2011, the NCPTT web site received over 735,000 visits by over 127,000 unique visitors who viewed over 4.75 million pages, and have downloaded thousands of PDF publications and videos. Since it began podcasting in 2008, the National Center has published thirty-four episodes of the Preservation Technology Podcast series, exploring various topics with leaders in preservation technology. These podcasts have been downloaded over 18,000 times in the past year alone. NCPTT continues to engage its audience via social media on Facebook, Twitter, YouTube, and Flickr. The National Center has a following of over 1,900 people on Facebook and its posts have been viewed over 177,000 times in 2011.

NCPTT's website utilizes the open source content management system, WordPress, to publish its vast array of articles, pages, photos, products and other files. The system makes use of themes which can change the look and feel of the site, and in 2011 a new theme was developed to closely follow the look of NPS.gov and introduce additional features. NCPTT staff are reclassifying website content along thematic lines to make information easier to find. The new site will be launched in early FY2012.



The National Center is committed to sharing its technical expertise not just with preservation professionals and the general public, but also with other units of the National Park Service. NCPTT is using its knowledge of WordPress to help the NPS Facility Maintenance and Cultural Resources Career Academies develop a web presence that will foster a community where workers can share professional resources and less-experienced employees can develop mentoring relationships. To help with these projects, the National Center is adding a web development assistant to its staff and capitalizing on its partnership with Northwestern State University, which brings to the table a wealth of experience in electronic delivery of education.

PRODUCT DISTRIBUTION

In addition to the robust resources available electronically through NCPTT's website, the National Center offers many of its publications and products in hard copy. In 2011, 579 requests for these materials were received and filled.

FIVE MOST DOWNLOADED PRODUCTS	
Historic American Timber Joinery - A graphic guide (2004-08) PDF	2,056
Rapid Building Site Assessment PDF	2,030
Cemetery Monument Conservation Cleaning Booklet (English) PDF	1,047
Testing the Energy Performance of Wood Windows in Cold Climates — A Report to The State of Vermont Division for Historic Preservation, Agency of Commerce and Community Development (1996-08) PDF	822
Podcast 29: Aaron Lubeck on how we are (and are not) adaptively reusing whole cities MP3	861

FIVE MOST ORDERED PRODUCTS	
Cleaning a Stone Grave Marker (2007-01)	442
Resetting a Stone Grave Marker (2007-02)	441
Basic Iron Fence Care (2007-03)	431
Resetting a Stone Grave Marker, Volume 2: Lifting and Hoisting (2010-01)	342
Application and Preparation of Limewash (2008-07)	305

NCPTT LIBRARY

Fulfilling NCPTT's legislated mission as a clearing house for information pertaining to preservation technology necessitates the active collection and curation of the latest books and journals published by the field. Our library database currently contains 1,213 items and, over the last year, fifty-one new books have been added. (For library additions in FY2011, see APPENDIX C.)

IN-OFFICE COMPUTER SYSTEMS

Providing NCPTT's staff with current computer technologies facilitates the National Center's mission. In times of tighter budgets and increased security threats, the Information Technology staff are hard at work updating in-office systems to make them as secure and efficient as possible.

In FY2011, the IT staff made specific efforts to develop a continuation of operations plan in case of a catastrophic event. Like most organizations, the data and software applications stored on NCPTT's servers, website and individual workstations are critical to the National Center's operations. Should a catastrophic event affect the infrastructure of Lee H. Nelson Hall, it is paramount that the data, software and website be preserved and kept operational. A continuation of operations plan has been written and is being implemented, utilizing scheduled backups and offsite storage.

The IT staff continues its partnership with the Louisiana School for Math, Science & Art, donating surplus equipment to the school for educational purposes. This saves the National Center money by avoiding disposal costs for outdated equipment.

TELNPS/ WEBEX TRAINING

The National Park Service is a geographically dispersed organization. As a program of the Park Service, NCPTT provides its employees with access to the national organization's training courses through the Technology Enhanced Learning (TEL) Network. TELNPS is a highly interactive training network which allows students immediate access to their instructor. During FY2011, six courses were taken at NCPTT with thirty-six participants, including staff from the Cane River Creole National Historical Park and Cane River National Heritage Area.

COMMUNITY ENGAGEMENT

The National Center recognizes that preservation is very much a community affair. As such, it makes a conscious effort to reach out and share its staff and expertise with local residents.

CONSERVATION SCIENTIST FOR A DAY

It's never too early to start thinking about a career in conservation science! In April 2011, NCPTT offered its second annual "Conservation Scientist for a Day" event, teaching local students about the intersection between science and culture. During this half-day hands-on event, forty-five sophomores from the Avoyelles Public Charter School learned about production of low and high -fired pottery and documented Native American and French Colonial pottery fragments. The students were also given a chance to perform diagnostic tests on the objects, including microscopy, chemical spot tests, and portable X-ray fluorescence spectroscopy.

ROBOTS INVADE NCPTT!

In August 2011, the National Center's Curtis Desselles taught Natchitoches area students about robots during a five-day camp held at Lee H. Nelson Hall. Nineteen students from grades K-12 learned about robotics research, electronics, and computer programming as they designed and built small robots of their own. This event was held in partnership with the Louisiana School for Math, Science, and the Arts; Northwestern State University of Louisiana; Natchitoches Chamber of Commerce; and Weyerhaeuser.



A participant solders a circuit board during a robotics camp held at Lee H. Nelson Hall, Natchitoches, LA.

AFRICAN AMERICAN HERITAGE IN THE CENTER'S BACKYARD

The American South is a treasure trove of African American history and culture, and the National Center is proud to support the work of local preservation advocate and NCPTT Summer Institute alum, Donna Isaacs in bringing this legacy to light. This past summer, NCPTT partnered with the Natchitoches Parish African American Cultural Heritage Initiative (NPAACHI) to survey African American heritage resources in Natchitoches and Natchez, Louisiana. This project was coordinated by Isaacs who supervised interns sponsored by the National Center through an NPS youth programs award. Teams spent the summer researching and documenting historic resources in the area, with the goal of submitting nominations to the National Register of Historic Places to create a new African American historic district.

THERE'S PLENTY TO PRESERVE IN NATCHITOCHES

NCPTT is happy to help when members of the public call with their preservation conundrums. Over the past year, the National Center helped out at two local sites in need of a little preservation TLC. NCPTT staff Andrew Ferrell and Ed FitzGerald responded to a call from the Association for the Preservation of Historic Natchitoches regarding some cracks appearing in the masonry walls of Lemee House, a circa 1837 Creole cottage. The two assessed the situation, found minor structural settling to be the likely cause, and installed crack monitors to track future movement.

NCPTT staff were called in to inspect another local icon, Roque House. The bousillage building, owned by the Natchitoches Historic Foundation, was originally constructed by a freed slave in 1803 on a farmstead twenty-two miles south of its present location in the City of Natchitoches. Staff assessed serious structural issues with the building and produced a report of their findings. With NCPTT's expert guidance, the Foundation was able to make appropriate repairs and avert risks to public health and safety.



NCPTT staff consulted on repairs to the historic Roque House, Natchitoches, LA.

APPENDICIES

TRAINING AND PRESENTATIONS

The National Center develops and conducts seminars and workshops nationwide on topics ranging from energy efficiency in historic buildings to the preservation of historic landscapes. The staff of NCPTT also speak at conferences, lecture school groups and give other presentations, disseminating the National Center's research and sharing its knowledge of preservation topics. The following is a list of training programs and presentations offered in FY2011:

EVENTS

Envelope Performance Testing Monitoring & Modeling, Oct. 10–6, 2010, Denver, CO: This hands-on workshop, sponsored through a cooperative agreement with the Association for Preservation Technology, focused on tools and approaches to quantify energy consumption in historic structures.

Urban Ecology Round Table, Nov. 3, 2010, NCPTT, Natchitoches, LA: The National Center hosted a roundtable discussion on urban ecology and the development of an Urban Ecology Network. The network will be a virtual resource where those involved in revitalizing existing and historic communities in a sustainable, livable, and affordable way can share best and worst practices with like-minded folks from across the globe.

Preservation of Historic Trees, Nov. 20 – Dec. 2, 2010, Fredericksburg, VA: This hands-on workshop, held in partnership with the Olmsted Center for Landscape Preservation and the George Washington Birthplace National Monument, addressed tree biology, documentation, maintenance, and replacement strategies.

Cemetery Monument Conservation Workshop, April 1–2, 2011, St. Augustine, FL: This training event was held in partnership with the University of Florida, Flagler College, Tolomato Cemetery Association, St. Augustine Basilica, and the Florida Public Archeology Network. Lectures focused on documentation, planning, condition assessment, and proper cleaning techniques. A hands-on portion addressed cleaning, resetting and repointing markers, epoxy repairs, and applying limewash.

Preservation Re-engineering: Finding Green Environmental Management in Vernacular Historic Buildings in a Hot and Humid Climate, April 7, 2011, New Orleans, LA: This workshop, sponsored through NCPTT's Grant program, focused on solutions for implementing 21st century low-energy environmental systems in 19th century buildings.

Cemetery Monument Conservation Basics, April 16, 2011, Chireno, TX: Held in partnership with the Texas Historic Commission and a Save America's Treasures Grant through Stephen F. Austin State University, workshop topics included documentation, planning, condition assessment, and cleaning techniques for cemetery monuments.

LEED Exam Preparation Workshop, May 10–12, 2011, Washington, DC: This workshop, held in partnership with the National Conference of State Historic Preservation Officers, prepared participants to take the LEED Green Associates examination while focusing on the preservation related aspects of LEED certification.

Ornamental Iron Workshop, May 18, 2011, Savannah, GA: : This hands-on workshop was held in partnership with the City of Savannah and addressed corrosion control, finishing techniques, simple repairs, riveting, forging work, and small part casting.

APPENDIX A

Preservation and Treatment of Park Cultural Resources, Sept. 19–23, 2011, Natchitoches, LA: Sponsored by the Stephen T. Mather Training Center in collaboration with NCPTT and Cane River Creole National Historical Park. Training included aspects of park cultural landscape preservation and treatment.



A participant repairs a grave marker during a workshop held in St. Augustine, FL.

STAFF PRESENTATIONS

Preserving Historic Cemetery Landscapes, Oct. 4, 2010, Shreveport, LA: Debbie Smith gave a presentation on cemetery landscape preservation to the Shreveport Garden Study Club.

Cultural Resources Advisory Group Meeting, Oct. 5–6, 2010, Denver, CO: Kirk Cordell presented NCPTT program and research activities to a national meeting of NPS cultural resource managers.

Why We Preserve Cemeteries, Oct. 21, 2010, NCPTT, Natchitoches, LA: Jason Church gave a presentation at the Louisiana Folk Life Center's, "The Graveyard: Cemetery and Gravestone Preservation in Louisiana."

Preservation of African American Cemeteries, Oct. 29, 2010, Austin, TX: Church presented at the National Trust for Historic Preservation.

Using Cemeteries in Heritage Education, Nov. 8, 2010, NCPTT, Natchitoches, LA: Church gave a lecture to education majors from Northwestern State University on how to incorporate historic sites into lesson plans.

APPENDIX A

Cemetery Etiquette & Respecting Different Cultures, Nov. 19, 2010, NCPTT, Natchitoches, LA: Church taught seventh graders from Natchitoches Magnet School how varying cultures view cemeteries differently.

Cemetery Care and Cleaning, Nov. 6, 2010, Fort Polk, LA: Church presented at Fort Polk Heritage Days.

Sustainable Preservation Listening Sessions, Jan. 12, 2010, Washington, DC: Andy Ferrell and Kirk Cordell presented on NCPTT's sustainability initiative and led discussion of NPS Cultural Resource Program efforts at two open meetings.

Washington Preservation Roundtable, Jan. 12, 2010, Washington, DC: Kirk Cordell presented NCPTT's work to a monthly meeting of Washington area preservation professionals.

LSU Guest Lecture, Feb. 8, 2011, Baton Rouge, LA: Andrew Ferrell and Ed FitzGerald gave a guest lecture to architecture students at Louisiana State University on the work of NCPTT, sustainable preservation, historic buildings, and Preservapedia.

"Polymer Issues in Conservation and Preservation of Cultural Heritage," Feb. 28, 2011, New Orleans, LA: Mary Striegel presented a paper at the 38th Annual Waterborne Symposium.

Cultural Resource Response to an Oil Spill, March 17, 2011, New Orleans, LA: Kirk Cordell led a five-paper session at the George Wright Society Biennial Conference, which included presentations by Carol Chin and Mary Striegel.

Conservation Scientist for a Day, April 6, 2011, NCPTT, Natchitoches, LA: Materials Conservation staff taught Juniors from the Avoyles Parish Charter School how to use science to study, understand, and conserve cultural heritage.

Cemetery Iconography, April 10, 2011, Shreveport, LA: Church gave a presentation to the Shreveport Genealogical Society.

New Orleans Cities of the Dead, May 12, 2011, New Orleans, LA: Striegel presented a paper at the annual American Institute of Architects (AIA) Conference.

"Comparative Study of Commercially Available Rust Converters," June 3, 2011, Philadelphia, PA: Church presented a paper at the annual conference of the American Institute for Conservation.

Breda Town, Aug. 19, 2011, Natchitoches, LA: Curtis Desselles presented research on the history, culture and cemetery of Breda Town, an historic African American community, at the 2011 Lower Mississippi Delta Symposium.

Understanding Gravestone Iconography, Sept. 14, 2011, Shreveport, LA: Presentation to Louisiana State University at Shreveport students and local community members.

"Use of Laser Profilometry to Evaluate Cleaning Methods for Marble Cemetery Monuments," Sept. 7, 2011, London, UK: Church presented a paper at the LACONA IX – Ninth Conference on Lasers in the Conservation of Artworks.

NCPTT Program, Sept. 30, 2011, NCPTT, Natchitoches, LA: NCPTT staff gave historic preservation students from the University of Texas San Antonio a tour of NCPTT's labs and presented on projects at the National Center.

PUBLICATIONS AND MEDIA PRODUCED IN FY2011

RESEARCH AND TECHNICAL PUBLICATIONS

- [2011 Updated Building and Site Condition Assessment Forms and Database](#), Chris Stavroudis and Mary Striegel, NCPTT.
- [Best Practice Recommendations for Cleaning Government-Issued Marble Headstones](#), Mary Striegel and Jason Church, NCPTT.
- Comparative Study of Commercially Available Cleaners for Use on Marble Veterans Affairs Headstones, Jason Church, Mary Striegel, Christopher McNamara, Kristen Bearce Lee, and Ralph Mitchell, in *Biocolonization of Stone: Control and Preventive Methods*, Proceedings from the MCI Workshop Series, Smithsonian Institution, 2011.
- Controlling Salt Damage, George Scherer, Princeton University.
- Creation of a Website and Online Community Forum for Osteoware: a Software Application for Human Skeleton Documentation, J. Christopher Dudar, Smithsonian Institution, National Museum of Natural History.
- Development of a Micro-fading Tester with Near-UV Capability, Paul Whitmore, Art Conservation Research Center, Carnegie Mellon University.
- Development of Ceramic Reference Materials for Calibration and quantification of Portable XRF Data, Caitlin O'Grady, Virginia Department of Historic Resources.
- Digital Recovery of Water Damaged Manuscripts Using Transportable, Multispectral Imaging Laboratory, Gregory Hayworth, University of Mississippi.
- Effects of Herbicides on Stone and Masonry, Caitlin Oshida, University of Georgia.
- Evaluation of Ca(OH)₂ Nano-Particle Treatment of Cordage/Basketry, Nancy Odegaard, University of Arizona, Arizona State Museum.
- [Field Report: Fort Livingston, Grand Terre Island](#), Carol S. Chin and Jason Church, NCPTT.
- Guide for Use of Wood Preservation in Historic Structures, Stan Lebow and Ron Anthony, USDA, Forest Service, Forest Products Laboratory.
- Improve Method for Repairing Wooden Structural Beams in CCC NHL District, Bandelier National Monument.
- Nanotechnology and Materials Testing: Using Nanoparticles to Tag Consolidant to Determine Depth of Penetration, New York State Office of State Parks, Recreation & Historic Preservation.
- Polymer Issues in Conservation and Preservation of Cultural Heritage, Mary F. Striegel, in *Proceedings of the Waterborne Symposium, New Orleans, February 28-March 4, 2011*, University of Southern Mississippi, School of Polymer Science, 2011.
- [Protecting Archeological Objects from Crude Oil](#), Erin White and Carol Chin, NCPTT.
- Remediation of Brick Masonry in Historic Structures Impacted by the Gulf Coast Oil Spill, Payal Vora, University of Texas at Austin.
- Structural Health Monitoring of Nation's Cultural Heritage, Huriye Sezer Atamturktur, Clemson University.

APPENDIX B

VIDEOS

- [African-American and Creole Superstitions Surrounding Death in the Cane River Region](#), Catherine Lobre, NCPTT.
- [Turf Management at National Parks and Other Historic Sites](#), Stephanie Nelson, NCPTT.

PODCASTS

- [Episode 26](#). Derek Patton on a collaborative project funded by a National Science Foundation grant to study POSS polymers for stone conservation.
- [Episode 27](#). Conversations on sustainability at the 2010 APT Conference.
- [Episode 28](#). John Watson on the philosophy of in-use musical instrument conservation.
- [Episode 29](#). Aaron Lubeck on how we are (and are not) adaptively reusing whole cities.
- [Episode 30](#). Patrick Sparks talks about Texas Dancehall Preservation and restoration of the Hays Street Bridge.
- [Episode 31](#). Karen Pavelka on her experiences helping to setup a conservation lab at the Cultural Recovery Center in Port-au-Prince, Haiti.
- [Episode 32](#). Claire Turcotte on campus heritage landscapes.
- [Episode 33](#). Andy deGruchy on the historic uses of lime mortar and its continuing importance today.
- [Episode 34](#). Diana Greenlee on earthwork stability research at Poverty Point.



In Podcast 30: Andy Ferrell interviews Patrick Sparks about his work on Hays Street Bridge in San Antonio, TX.

LIBRARY ADDITIONS IN FY2011

1. *Greening Existing Buildings* by Jerry Yudelson 2010
2. *ProBlogger: Secrets for Blogging Your Way to a Six-Figure Income* by Darren Rowse and Chris Garrett 2008
3. *The Southern Heirloom Garden* by William C. Welch and Greg Grant 1995
4. *Zinc Sculpture in America 1850-1950* by Carol A. Grissom 2009
5. *Shaping the American Landscape* by Charles Birnbaum 2009
6. *Understanding Green Building Guidelines* by Traci Rose Rider 2009
7. *The Future of the Past: A Conservation Ethic for Architecture, Urbanism, and Historic Preservation* by Steven W. Semes 2002
8. *Heritage Values in Contemporary Society* by Smith, Messenger, and Soderland 2010
9. *Shop Class as Soul Craft* by Matthew Crawford 2009
10. *Green Building and Remodeling for Dummies* by Eric Corey Freed 2008
11. *The Northwest Green Home Primer* by Kathleen O'Brien and Kathleen Smith 2008
12. *Green Your Home* by Jeanne Roberts 2008
13. *Lime and Lime Mortar* by A. D. Cowper 1998
14. *Green Inheritance: Saving the Plants of the World* by Anthony Huxley 2005
15. *Building Evaluation for Adaptive Reuse and Preservation* by J. Stanley Rabun and Richard Kelso 2009
16. *Building Green* by Snell and Callahan 2009
17. *Smashing WordPress: Beyond the Blog* by Thord Daniel Hedengren 2010
18. *Architectural Conservation: An Introduction* by Leo Schmidt 2008
19. *The Participatory Museum* by Nina Simon 2010
20. *Stone Decay in Architectural Environment* by Alice V. Turkington 2005
21. *Infrared Spectroscopy in Conservation Science* by Michele R. Derrick, Dusan Stulic, and James M. Laundry 1999
22. *Specifications in Detail* by Frank W. Macey 2009
23. *Green Restoration: Sustainable Building and Historic Homes* by Aaron Lubeck 2010
24. *A Handbook of Hazard Tree Evaluation for Utility Arborists* by James R. Clark and Nelda P. Matheny 1993
25. *Trees and Overhead Electric Wires: Proper Pruning and Selection* by D.L. Ham 1994
26. *Best Management Practices: Utility Pruning of Trees* by Geoffrey P. Kempter 2004
27. *Root Injury and Tree Health* by Gary W. Watson
28. *The English Heritage Handbook: The Management & Maintenance of Historic Parks, Gardens & Landscapes* by John Watkins and Tom Wright 2007
29. *Metric Survey Specifications for Cultural Heritage* by Paul Bryan, Bill Blake and Jon Bedford 2009
30. *Digital Heritage* by Lindsay MacDonald 2006
31. *Monuments and the Millennium* by Jeanne-Marie Teutonico and John Fidler 2001
32. *Measured and Drawn* by David Andrews, Jon Bedford, Bill Blake, Paul Bryan, Tom Cromwell, and Richard Lea 2009
33. *Recording, Modeling and Visualization of Cultural Heritage* 2006
34. *Uncertain Path* by William C. Teed 2010
35. *Lasers in the Conservation of Artworks VIII* 2011
36. *How to Write a Historic Structure Report* by David Arbogast 2010
37. *Metropolitan Museum Studies in Art, Science, and Technology* 2010
38. *Public Spaces, Private Gardens* by Lake Douglas 2011
39. *Design With Style* 2005
40. *In Reverence: A Plan for the Preservation of Tolomato Cemetery, St. Augustine, Florida* by Matthew Kear 2010

APPENDIX C

41. *Alice Shirley and the Story of Wexford Lodge* by Terrence J. Winschell 2010
42. *Metal* 2010
43. *A Pictorial History of Arkansas's Old State House* by Mary L. Kwas 2011
44. *Campus Architecture: Building in the Groves of Academe* by Richard P. Dober 1996
45. *A Dictionary of Architecture and Building Vol I-III* by Russell Surgis 1902
46. *A Field Guide to American Houses* by Virginia and Lee McAlester 1984
47. *Campus Design* by Richard P. Dober 1992
48. *Campus Landscape: Functions, Forms, Features* by Richard P. Dober 2000
49. *Analytical Methods in Corrosion Science and Engineering* 2006
50. *Sustainability and Historic Preservation: Toward a Holistic View* 2011
51. *Guastavino Vaulting: The Art of Structural Tile* by John Ochsendorf 2010



New additions to NCPTT's library include John Ochsendorf's Guastavino Vaulting: The Art of Structural Tile.

APPENDIX D

FY2011 BUDGET

	APPROPRIATED FUNDS	
FEDERAL PERSONNEL	877,900	877,900
Personnel	869,000	
Performance Awards	8,900	
TRAVEL	60,000	60,000
NCPTT Staff Travel	60,000	
PTT Board Travel		
TRANSPORTATION OF THINGS	1,500	1,500
GEN – Express Shipping	1,500	
RENT, COMMUNICATIONS, AND UTILITIES	50,130	50,130
GEN – Utilities – Nelson Hall	36,430	
GEN – Phone Service	7,700	
GEN – GSA vehicle	5,000	
GEN – Storage	1,000	
PRINTING & REPRODUCTION	500	500
GEN – Reproduction	500	
SERVICES	24,700	24,700
GEN – Maintenance/Security/Parking – Nelson Hall	15,700	
GEN – Advertising	500	
MRKT – Conference Displays and Fees	2,200	
GEN – IT Assessments	3,600	
GEN – Professional Memberships – APT, ICOMOS, DOCOMOMO	1,000	
GEN – SHA Technology Room	1,700	
TRAINING	15,800	15,800
GEN – Conference Attendance	5,500	
GEN – Staff Training	9,400	
GEN – Health Club Reimbursement (3@300)	900	
SUPPLIES	57,300	57,300
GEN – Books and Subscriptions	7,000	
GEN – Office Supplies	20,000	

APPENDIX D

MRKT – Tradeshow promotional items	4,300	
MC – Laboratory Supplies	14,000	
IT – Software	12,000	
CAPITAL EQUIPMENT	40,000	40,000
IT – Hardware	40,000	
MRP – Lab Equipment	13,300	
GRANTS, COOP. AGREEMENTS, & PROJECTS	849,500	849,500
GEN – PTT Competitive Grants	285,000	
GEN – NCPTT NSU CA (Personnel, Janitorial, etc. for 2010)	456,000	
AE – LSU CA	5,000	
AE – Goucher-GWU CA– Sustainability Journal	25,000	
AE – Building Charette (cancelled by recipient)	0	
AE – UVM CA	50,000	
AE – Timber Framers Guild Conference Support	2,500	
AE – ICOMOS Conference Support	3,000	
AE – APT Conference Support	2,500	
MC – AIC Conference Support	3,000	
HL – Landscape Preservation Maintenance Curriculum		
OCLP	12,500	
GEN – CARI	5,000	
TOTAL APPROPRIATED FUNDS EXPENDED		\$1,977,330

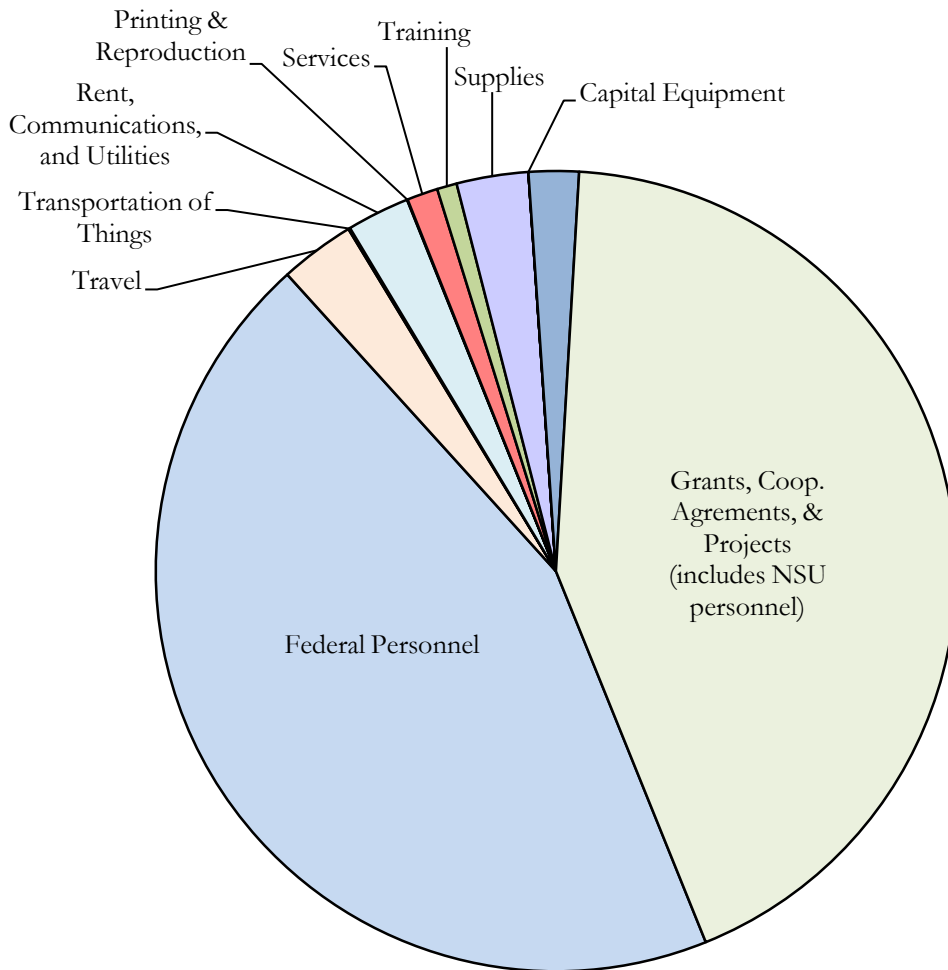
ABBREVIATIONS	
Archeology and Collections	AC
Architecture and Engineering	AE
Heritage Education	HE
Historic Landscapes	HL
Information Technology	IT
Center-wide activities	GEN
Marketing	MRKT
Materials Conservation	MC

APPENDIX D

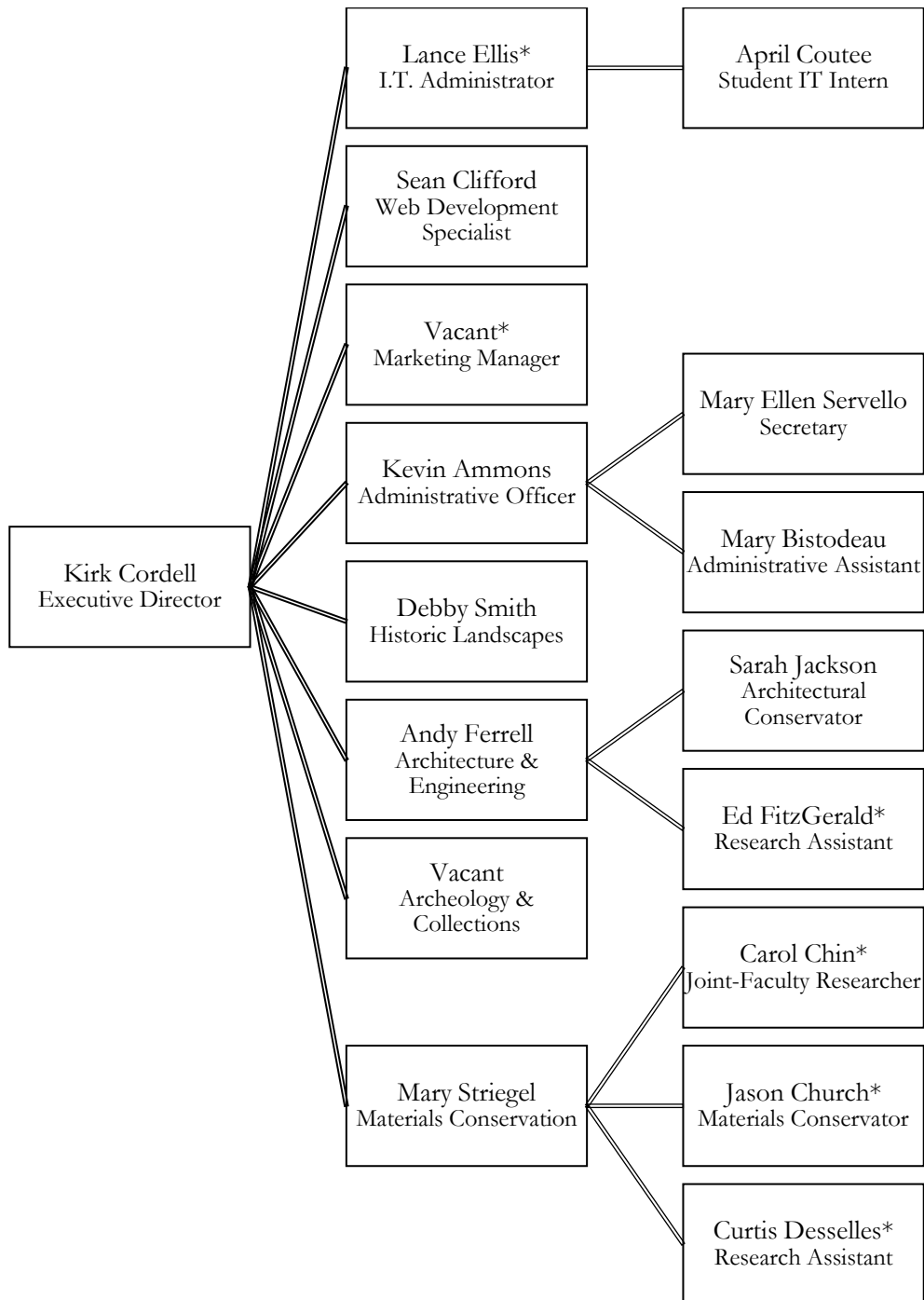
FIXED COSTS (EXTRACTED FROM ITEMS ABOVE)

BUILDING FIXED COSTS	
Utilities	36,430
Maintenance/Security/Parking – Nelson Hall	15,700
GSA vehicle	5,000
Phone Service	7,700
Janitorial (in NSU CA)	13,000
TOTAL BUILDING FIXED COSTS	77,830
PERSONNEL FIXED COSTS	
Federal Personnel	877,900
Permanent NSU Personnel	420,000
Interns	30,000
TOTAL PERSONNEL FIXED COSTS	1,327,900
TOTAL FIXED COSTS	1,405,730

BUDGET PIE CHART



ORGANIZATION CHART



* Positions employed through a cooperative agreement with Northwestern State University.

