

**Yale University Library
Preservation Department**

**44th Annual Report
July 2014-June 2015**

**Roberta Pilette
December 23, 2015**

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Roberta Pilette, Director of Preservation and Chief Preservation Officer
Murray Harrison, Senior Administrative Assistant

Preservation Staffing:	July 1, 2014	June 30, 2015
Positions budgeted:		
C&T	11.00	11.00
M&P	10.00	10.47
Positions filled:		
C&T	11.00	9.00
M&P	10.00	10.47

OVERVIEW OF THE DEPARTMENT

The Yale University Library Preservation Department is responsible for the long-term preservation of all library materials. The Department consists of four units—Preservation Services; Digital Reformatting & Microfilm Services (DRMS); Conservation & Exhibition Services (CES) including Collections Conservation & Housing (CCH), Special Collections Conservation (SCC) and Exhibit Production Support (EPS); and Digital Preservation Services. The Department organizational chart can be found in Appendix I, the annual statistics for the Department can be found in Appendix II.

344 Winchester planning, construction & more planning and construction

The design, build out, and preparation for the move to new facilities at 344 Winchester took a tremendous amount of time and effort for all affected staff. Construction on the new facilities started in August 2014 with the goal of having both the Beinecke Rare Book & Manuscript Library (BRBL) Technical Services area and the Preservation Department’s areas—administration, conservation spaces, binding preparation, and digital preservation—all completed by a April 2015 move-in date that BRBL required. The Preservation Department planned to move to the new facility in June 2015 as this worked best with commitments the conservation lab had with regards to treatments and exhibits. Due to a variety of construction issues and the need to complete BRBL’s spaces as close to the original deadline as possible the Preservation’s spaces were not ready in April. Initially this was not a problem as the move was scheduled for June. However, subsequent problems with the flooring in the Preservation spaces caused the move to be put off several times while the cause and solution for the ‘bubbling’ and ‘telegraphing’ flooring was identified and carried out. The disruption to the move schedule had far reaching effects on the carefully crafted conservation schedule that would allow the conservation units to complete work and meet deadlines. The staff handled the situation professionally and used creative solutions to meet the deadlines.

As it was, the moves were pushed to FY16. The week of August 17th found the administration, Preservation Services and Digital Preservation Services moving to 344 Winchester. The worst of the flooring issues were in the conservation spaces and the solution was still unknown. For two months the construction company and University facilities continued to try and identify the cause. Finally, with the repairs made and a method of monitoring the concrete slab moisture levels established, Conservation and Exhibition Services moved the week of October 12th. Even before the complication of the flooring problem, the number of meetings, emails exchanged and visits to the site took innumerable hours of staff time. While it was a frustrating time for all, in the end the staff are extremely pleased with the resulting space and happy to have efficient and effective spaces within which to work.

During FY15, Digital Reformatting & Microfilming Services (DRMS) which originally was to remain at Sterling Memorial Library learned that they too would be able to move to 344 Winchester. DRMS will be moving to 344 Winchester in FY16. They will be in a shared space with the Library Technical Services. At the moment Robert Klingenberger, head of DRMS, and his staff are working with architects, designers and university facilities on planning their spaces. Construction is due to start in December 2015 with an anticipated move-in date for DRMS of June 2016. All the staff look forward to being in one location and near each other for the start of fiscal year 2017.

PROJECTS/ACTIVITIES

Preservation Newsletter

Beginning with the fall of 2014 greater effort has been put forth in producing a *Preservation Newsletter*. The audience is primarily Library staff but in conjunction with the Library Communication office it may on occasion be sent more broadly to alum and Library supporters. The *Newsletter* this past year was issued Fall, Winter & Spring. These may be found on the department website under [news & events](#).

Some stories covered: digitization projects, emergency response within the library and at a national level, the department's planned move to new quarters, a new workflow tool—ICE (Item Condition Evaluation)—the audio-visual inventory project, digital preservation and why it's important, as well as staff outreach and teaching in the University and the community.

Preservation Lecture

On November 4, 2014 Dr. Luciana Duranti, Chair & Professor, Archival Studies; School of Library, Archival and Information Studies, the University of British Columbia gave the 6th preservation lecture sponsored by Jack '47 and Betsy O'Neill. Her talk, *Involuntary Secondary Permanence: Do many copies replace the one original?*, discussed diplomatics and authentication in the digital age and what or which is preserved. You can listen to it [here](#).

Department Tours

The Department conducts orientation tours for new staff members. These tours are offered on an as needed basis—whenever there are 3-7 new staff members. The tours have also included long-time staff who have moved to new positions within the Library. This year 11 Library staff

members toured the Department during three, hour-long events. The tours are an opportunity for new staff to meet preservation staff, see the work spaces and learn about the range of preservation services available. We have found that they have raised library staff awareness of preservation services. Due to preparations for the move to 344 Winchester, the new staff tours were paused as of April 2015.

Preservation of Audio Visual (AV) collections

The Library completed the first phase of a multi-phase project meant to begin to address the preservation of audio-visual materials in our collections. The first phase was completed the end of summer 2015. This inventory has covered approximately half of the currently identified unique audio-visual materials in the Arts Library, Oral History of American Music, Historic Sound Recordings, Music Library, Divinity Library, and the Medical Historical Library.

The goal of phase one was to identify how much of what formats are in the above collections and get a general sense of the condition of these materials. AV media is particularly at risk due to technological obsolescence and/or failure of the support media. It is acknowledged that AV collections deteriorate more rapidly than paper-based collections. In addition there is the matter of expertise, documentation, and parts for obsolete playback equipment all disappearing. AV industry experts agree that there is perhaps 10-15 years remaining before moving AV content to digital formats will become economically, physically and/or technically unrealistic. Some formats are more vulnerable than others. Therefore, knowing what type of formats and in what collections will help the Library set priorities for addressing the preservation needs of the Library's AV collections.

Under the direction of Audio-Visual Preservation Services (AVPS) the inventory project began on May 27th and ran through August 12th. AVPS is a NYC based consulting firm specializing in software development and the long-term use, distribution, production, education and research of media. With AVPS as the onsite supervisor and eight students the inventory's two-step process—photographing the various media and related containers, then entering basic bibliographic data and the type of media into the survey tool developed by AVPS—was completed. Roberta Pilette, Preservation Department Director, and Martha Horan, Preservation Librarian, co-managed the project.

The inventory thus far has identified a total of 47,096 distinct items that are unique. This was less than anticipated given the rough estimates initially provided by the individual collections. The inventory has given us a clear idea of what the format breakdown is, how many of each format and where they are located. The formats in the largest quantities were sound recordings: over 17,000 ¼ tapes, 8,500 compact cassettes, and 3,700 test pressings. VHS tapes, unsurprisingly, made up over 1,175 of the 2,837 video formats documented.

Phase I, Part 2 will be to take the results and recommendations and develop a plan to start addressing the preservation concerns for these collections. Phase II will be to complete the inventory of unique audio-visual materials—those held by Manuscript & Archives.

ConservationSpace

[ConservationSpace](#) is an Andrew W. Mellon Foundation funded project to develop an open-source software application that will address a core need of the conservation community for a shared solution to the problem of documentation management. Christine McCarthy, Chief Conservator, is Yale University's conservator representative. She is also the only book/library conservator amongst the U.S. and international partner institutions. As such she is involved in discussions on design and project planning, keeping the conservators across Yale informed as to progress, and arranging trials and demonstrations of the application. McCarthy joined the National Gallery project leads and conservators from the Metropolitan Museum of Art, New York for a presentation to the Mellon Foundation on the project's progress and to make the case for additional funding for Phase 2 build out. The build-out phase was approved by Mellon and is expected to be completed by June 30, 2016.

EMERGENCY RESPONSES

The Preservation Department is able to respond 24/7 to any Library emergency involving collection materials. Over the past year, we had five events. In general, the number of events and the staff time devoted to response and recovery has dropped over the thirteen years statistics have been kept on these incidents. See Appendix IV.

In addition, Kennedy who coordinates and updates the Library's emergency plan is involved in COSTEP-CT (Coordinated Statewide Emergency Preparedness – Connecticut). She attends their annual meeting and manages the organization's Facebook page.

CONFERENCES, PRESENTATIONS, COMMITTEES & TRAINING

Yale University Library encourages staff participation in professional activities, both within the University and library profession. Staff are encouraged to enhance their knowledge base by learning a new activity or building on their current skill set.

Meetings/Conferences/Travel

American Library Association Meetings

Mid-Winter- Jan 2015, Chicago, IL; Martha Horan

Annual – June 2015, San Francisco; Robert Klingenberg

American Institute for Conservation, Miami, Florida, May 2015

Tara Kennedy

Werner Haun

Paula Zyats

Committees/Task Forces/Working Groups

Department members are active on a wide variety of committees, task forces and working groups at the Library, University and national level.

The following list is a selection of Library committees, working groups & task forces on which Preservation staff have served over the past year:

- Budget Management Forum

- Library Executive Council (LEC)
- Local 34 Best Practices committee
- Exhibits Task Force
- SML Exhibits Committee
- Web Exhibit Working Group
- Museum Studies/Curatorial Curriculum Committee, Public Humanities
- Metadata for Digital Assets Committee
 - Records and Databases Relationships Task Group
 - PreMIS Working Group
- Digital Collections Steering Group
 - Library Project Review Committee
- Digital Preservation Policy Development Task Force
- Kissinger Collection Digitization Project Planning Group (for lack of a better name)
- Yale Audio-Visual Advocates Group
- YUL Cataloging Coordination Council
- YUL Sharepoint 360 Rollout Task Force
- YUL Special Collection Reading Room Security Audit

Preservation Department members are also involved in a number of professional organizations. Below is a partial list:

- ConservationSpace, Mellon funded initiative
- American Library Association (ALA), Preservation and Reformatting Section (PARS)
 - Preservation Standards and Practices Committee
- American Institute for Conservation (AIC)
 - AIC-CERT (Conservation Emergency Response Team)
 - Health & Safety Committee
 - Book & Paper Group (BPG) Education & Programming Committee
 - BPG Archives Discussion Group
 - Paper Conservation Catalog WIKI
- Northeast Document Conservation Center (NEDCC), Advisory Committee
- Guild of Book Workers (GBW)
 - GBW Journal, Editorial Board
- COSTEP-CT (Coordinated Statewide Emergency Preparedness – CT)
- National Information Standards Organization (NISO), Content and Collection Management Topic Committee

Presentations, Exhibits, Publications

Staff contribute to the profession through webinars and lectures. Below is a partial list of those activities:

[Traveling Scriptorium](#)

This has been in very high demand all year with numerous presentations across the University by Marie-France Lemay, Paula Zyats & Karen Jutzi. In addition there have been *Scriptorium* presentations at Rare Book School in New Haven, 'Medieval

Bookbinding' advance seminar in manuscript studies with Barbara Shailor (Lemay & Jutzi); SUNY New Paltz for Tom Olsen's "From Gutenberg to Google Books: Studies in Books, Readers and Culture" graduate seminar: two sessions held, a 1 hour public presentation and then a 2 hour session with students from the graduate seminar, February 24, 2015 (McCarthy, Zyats, Lemay, Jutzi); and at Columbia College, Chicago IL, "Medieval Bookbinding Workshop for Bookbinders and Book Artists," January 17-19, 2015 (Jutzi)

Preservation and Sustainability: a case study in HVAC management for library collections, Presentation given at Yale University Library, October 2014; Tara Kennedy.

Advanced Latin Paleography, Yale, Barbara Shailor instructor, February 2015; Marie-France Lemay, presenter.

Voynich MS Symposium, Folger Shakespeare Library, Washington D.C., November 2014; Paula Zyats, speaker.

'Don't Rock the Cradle' Symposium, Folger Shakespeare Library, Washington D.C., April 2015; Presentation – "Mounts & More: A systematic approach to the care and display of books in library exhibitions" by Christine McCarthy & Kerri Sancomb.

Yale University's Technology Summit, October 2014; Euan Cochrane, presenter

CNI Symposium, secure online access/virtual reading rooms, Washington D.C., December 2014; Euan Cochrane

bitCurator Forum, Chapel Hill, NC, January 2015; Euan Cochrane, presenter on panel

Coalition for Networked Information, April 2015, Seattle, WA; Euan Cochran, presenter

Born Digital-Workflows CURATE Camp, Brooklyn NY, April 2015
Euan Cochrane, presenter

Training

All managers encourage staff development. This is done through a variety of sources—the University Learning Center offerings and scholarships or awards granted by professional organizations. Below is a selection of some of the training activities.

University/Library courses & workshops

Managing Up

Excel Essential Training via Lynda.com

Aeon training for non-regular users

Workday training

Material Cultural Lunches – Davenport College

Other courses outside of the University

19th Century Persian 'Frame' Binding, NYU, New York, NY, January 2015; Fionnuala Gerrity

Rare Book School

'The History of European & American Papermaking,' June 13-20, 2014; Fionnuala Gerrity, Karen Jutzi, Marie-France Lemay, Laura O'Brien-Miller

Institut d'histoire du livre; 'History of Printing Type: 1450-1830', Lyon France, August 2014; Ansley Joe

Guild of Book Workers

Traditional Ethiopian Bookbinding Workshop, Philadelphia, PA, October 2014;
Ansley Joe

Knife & tool sharpening workshop, New York; Karen Jutzi

Examination & Documentation with UV Radiation workshop, Buffalo, NY, August 2014;
Marie-France Lemay

Trustworthy Repositories Audit & Certification training, London, England, October 2014;
Euan Cochrane

PERSONNEL

New staff members to the department in FY15:

Martha Horan, Preservation Librarian, part-time term for 1 year, November 30, 2014

Staff members who have left during FY15:

Zenaida Lantuch, Conservation Assistant, January 2014 (retirement)

Fionnuala Gerrity, Conservation Assistant, June 2015

PRESERVATION SERVICES OFFICE

Tara D. Kennedy, Preservation Services Librarian

Staffing as of June 30, 2015:

C&T Staff

Ellen Zemina	Binding Assistant	Level B
Susan Mar	Binding Assistant	Level B

Brief overview of operations

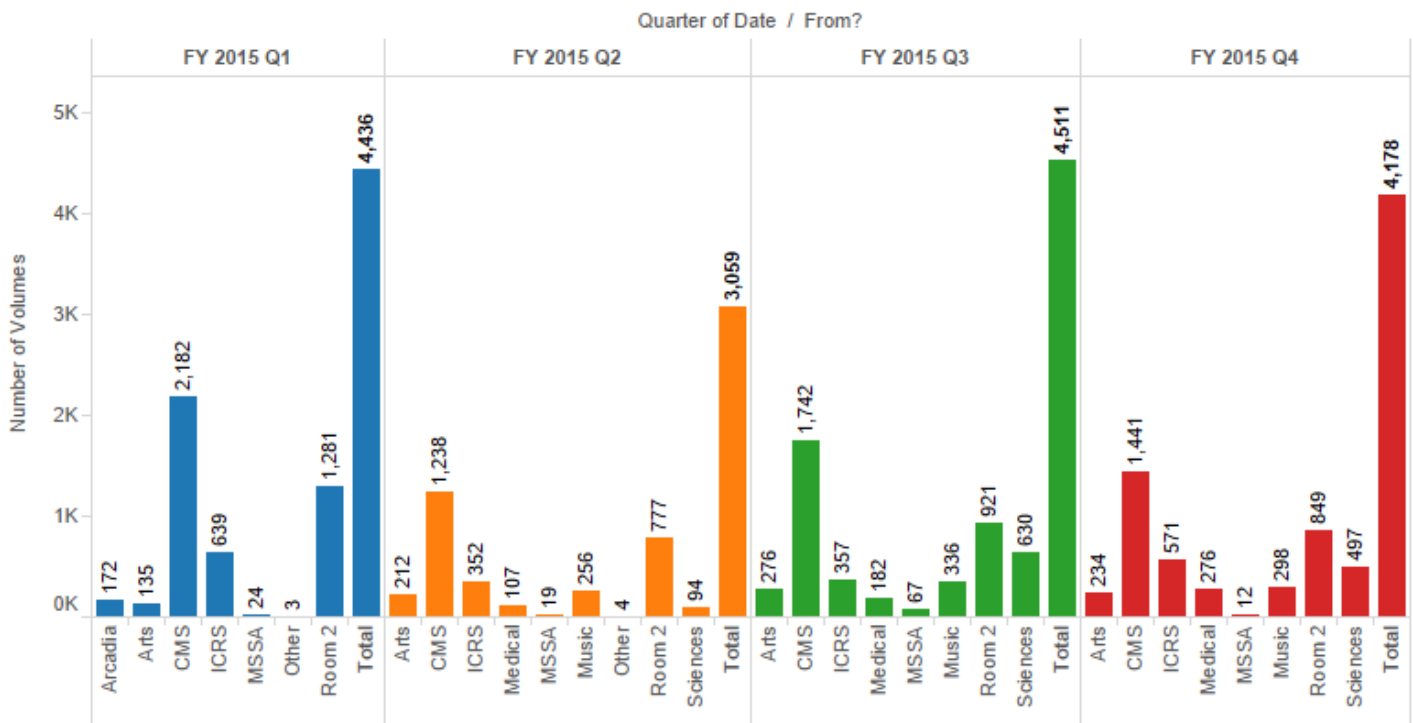
Preservation Services (PS) primary activities consist of preservation review of circulating and reference collections; monograph binding; mass deacidification; and commercial boxing. Other key preservation-related activities include environmental monitoring and reporting; HVAC consulting; emergency preparation and response; collection surveys; and preservation education and outreach.

Services

Preservation Review

Kennedy reviewed over **18,835 volumes** from circulation and cataloging backlog collections or about **360 volumes per week**. Volumes for review come from across the Library system. The table below shows the originating point for those volumes.

Where do the volumes come from?



In anticipation of the move to 344 Winchester, a realignment of responsibilities across units, and the reduction of the preservation backlog Kennedy hired and trained a student, Caitlin

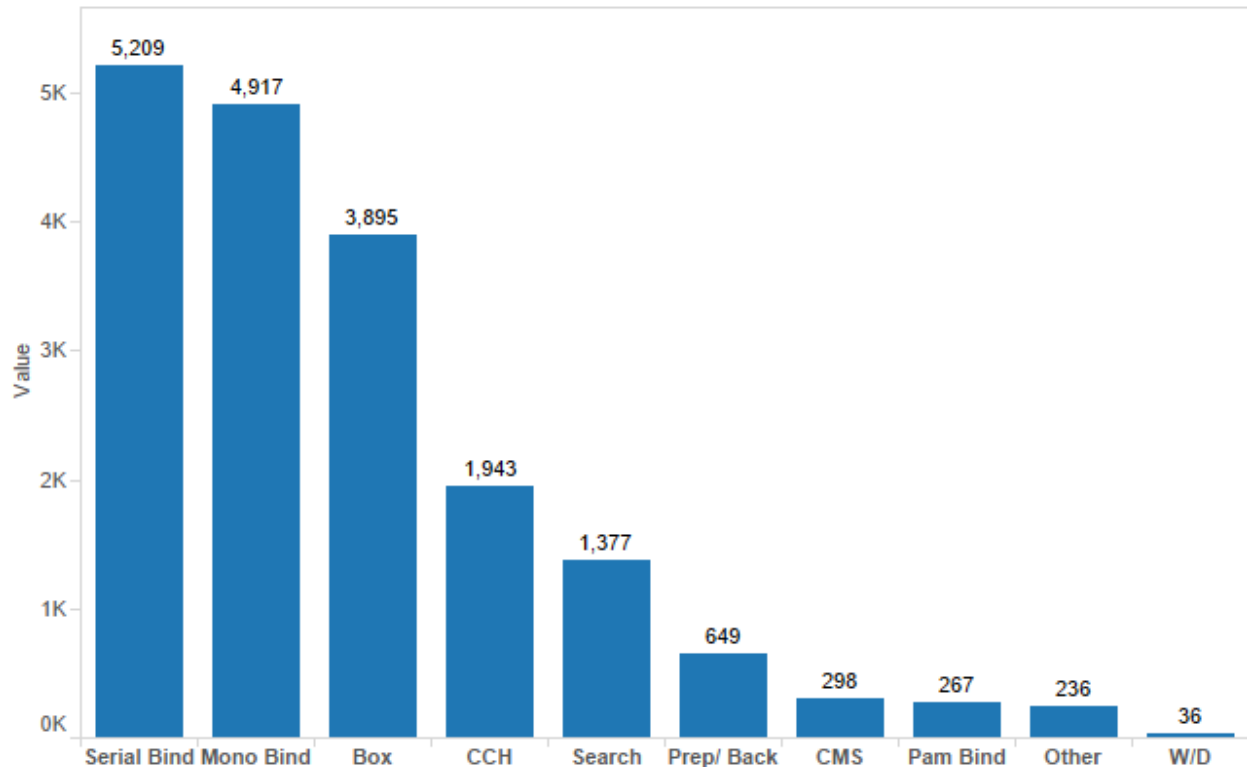
Farrell, to do backlog searching and box measuring/assembly. By December this backlog was eliminated:

- All volumes that were in backlog area SML Room 6 have been searched and information entered into either the backlog search spreadsheet or in ICE (Item Condition Evaluation) tracking database with the exception of volumes sent for Cataloging Review due to being rejected by ICE for ingestion
- 3,317 items were searched from the Preservation Backlog (spreadsheets only)
- 2,525 items had decisions made and are/have been processed (spreadsheets only)
- 11 book trucks of backlog and other problematic reformatting material have been processed
- 1,228 items slated for archival boxes (spreadsheets only)
- 1,010 archival boxes processed and sent back to the shelf
 - Boxing of items will continue through the semester

As part of the realignment of responsibilities in the department, the review decision process was handed over to Digital Reformatting & Microfilming Services (DRMS) in January 2015. Preservation review decisions training was conducted for Martha Horan, preservation librarian. Preservation Services still does an initial sort—for binding, mass deacidification and in-house treatment. Those volumes that need reformatting go to DRMS for the review decision process.

Statistics

Treatment Received FY2015



- 54% of circulating materials that come to preservation are sent for commercial binding

- A little more than 1% are sent to Cataloging Metadata Services (CMS) for catalog corrections before anything else can be done for the volume
- About 10% of the volumes are sent to conservation for treatment
- About 21% of the volumes are boxed

Mudd Auction Catalogs: all of the Mudd Auction Catalogs were moved from the Mudd Library to be cataloged by CMS staff. The auction catalogs were all in fair to poor shape. Preservation Services purchased envelopes to assist with the housing of the thinner materials and asked CMS to include the thicker, heavier auction catalogs in the items that they sent to PS for review. It is considered part of the overall cataloging backlog that is an initiative for the Library overall.

Hall of Graduate Studies (HGS) records review with Michael Lotstein: due to the move of Department of Graduate Studies, MSSA was asked to take in their student files, mostly stored in the basement with no climate control or poor climate control. There was evidence of silverfish activity, so Belfor was brought in to access how much it would cost to freeze the collections; HGS chose to further weed its collections instead of freezing all of them. Preservation Services took in six boxes of files to be cleaned; they were in an area where no insect activity was found, but they are very dirty.

Astronomy Library project: starting mid-January, CSSSI agreed to take the Astronomy Library's collections, catalog them, and send them to LSF due to Astronomy needing to move out of current space in Observatory; materials that could not go to LSF as-is have been sent to PS to review for binding or boxing; this will continue into fy2016.

Monograph Binding, Mass Deacidification, and Commercial Boxing

The statistics for binding do not give a full picture of commercial binding needs due to changing the vendor and the need to stop accepting binding in preparation of the move to 344 Winchester. Therefore, there was a period of time both at the start and end of the fiscal year where no binding was sent.

With the end of the one year contract a new RFQ was sent out. The winning binder was Bridgeport National Bindery. This meant that once again the Library was changing binders. The change in binder required meetings to close out accounts with HF Group Acme Binding and establish a business relationship with Bridgeport National Bindery. These included reconciling the deposit account from Acme and setting up a new binding profile and moving the serial titles to the Bridgeport ABLE binding database.

At the same time Kennedy was working with collections across the Library to centralize all binding activities—writing up documentation, holding staff participation meetings, and coordinating the initial shipments. Starting in September all YUL commercial binding operations were centralized under Preservation Services in the Preservation Department, with the exception of the Law Library. This change dovetailed nicely with the acquisition of an additional Binding Assistant in Preservation Services and SML's serials binding operations from the Preparations Department in May 2014.

The acquisition of serials binding from Preparations came with a 1,100 volume serial backlog, which was reviewed and reduced by approximately 400 volumes by re-routing for boxing or being sent to the shelf “as-is” (did not need to be bound).

In summary, centralizing commercial binding operations resulted in:

- Centralizing of funding for all commercial binding under Preservation Services
- Centralizing of all binding preparation work which includes:
 - Sorting incoming materials for binding for appropriate treatments (e.g. adhesive bind, recase, pamphlet bind)
 - Providing binding instructions to commercial bindery using an automated system database (currently ABLE)
 - Checking for completeness and accuracy of the cataloging record
 - Sorting and packing processed material
 - Preparing outgoing shipments
 - Status tracking items coming in and leaving assigned work areas
 - Unpacking returned books
 - Checking for completeness, accuracy, and quality of newly-bound items
 - Returning items to the owning library

This year 337 volumes were sent for mass deacidification. Most of these are newly acquired Near East volumes.

Environmental Monitoring and Reporting

- Established an Integrated Pest Management program for silverfish/ centipedes in MSSA and Law
- Assisted Jae Rossman, Arts Library, with proper disposal of lead type in Press Room
- Gave summary report of IPI project at Professional School and Cultural Spaces Sustainability Summit, sponsored by the Office of Sustainability
- Worked with Horan from Medical Library to assess current situation with HVAC systems at Medical Library:
 - conditions showed RH below 20% despite humidifiers on system;
 - HVAC systems had not been serviced;
 - set point alarms not set; and
 - filters not changed on active returns.
 - Horan followed up with Facilities to get situation rectified.

Collection Surveys

Reviewed Andrews History Seminar Reading Room collection in preparation for a preservation needs survey. The survey was begun after the core collection was identified.

CONSERVATION & EXHIBITION SERVICES (CES) – *Special Collections Conservation (SCC), Collections Conservation & Housing (CCH) & Exhibit Production Support (EPS)*
Christine McCarthy, Chief Conservator

Staffing as of June 30, 2015:

M&P Staff

Paula Zyats	Assistant Chief Conservator	(SCC)
Werner Haun	Assistant Chief Conservator	(CCH)
Marie-France Lemay	Paper and Photograph Conservator	(SCC)
Laura O’Brien-Miller	Conservator Lewis Walpole Lib	(SCC)
Kerri Sancomb	Exhibition Production Coordinator	(EPS)

C&T Staff

Karen Jutzi	Conservation Assistant	Level E	(SCC)
Ansley Joe	Conservation Assistant	Level D	(CCH)

Overview

Conservation & Exhibition Services (CES) preserves access to collections through single-item and collection-level conservation treatments and the creation of custom housings for books, works on paper, photographs, and other objects from both the Library’s general and special collections. In addition, the unit carries out a program of preventative activities and services to protect collections from the risks associated with loans and in-house exhibition. The work of CES is driven by the use of the collections by individual students, faculty, and researchers; and by the cataloging and processing of newly and previously acquired collections. This work was carried out in three main laboratories in Sterling Memorial Library. Additional activities took place on-site at the Beinecke Rare Book Library (BRBL), the Lewis Walpole Library (LWL), and the Cushing Medical Library (MED).

Conservation & Exhibition Services work is organized into following areas of program activity:

- Collection Conservation & Housing (CCH)
- Special Collections Conservation (SCC)
- Exhibit Production Support (EPS)
- Loan Support

Statistics for CES’s work may be found in Appendix III.

Activities

Arts & Humanities

Divinity Library Special Collections

Werner Haun humidified, flattened, mended, and encapsulated 25 architectural drawings that could not be handled and unrolled by special collection staff for processing.

Gilmore Music Library Special Collections

- MSS 55, Horowitz (Vladimir and Wanda Toscanini) Papers, Baseline Processing Project - Haun reviewed materials and recommended boxes for objects in the collection as it was being processed. Haun and his team also created internal box supports and custom enclosures as needed for unusual items such as Grammy awards.
- MSS 86, Shaw (Robert) Papers, Baseline Processing Project – Haun assessed the collection’s scrapbooks, recommending the purchase of appropriate boxes from one of our vendors.
- Paula Zyats packed an oversized framed painting so that it could be transferred from one of the staff offices to the Music Department.
- Misc. MS 372, Miscellaneous Letters Collection (Joseph Haydn & J. Morchelia) – Karen Jutzi surface cleaned and removed the letters from a damaging backing board.

International Collections & Research Services (ICRS)

- MS 1728, Maurice Durand Collection, - Haun humidified and flattened 417 silver-gelatin photographic prints so that they could be processed and added to the collection held in Manuscripts and Archives.
- MS 1825, North African Jewish Manuscripts Collection – Christine McCarthy, completed the work of the Arcadia 5 project. Final work included quality control for the completed treatments from the vendor, the Center for the Conservation of Art and Historic Artifacts (CCAHA); analysis of the condition survey; review of the reports and data with the collection curator; and submission of the final report to University Librarian, Susan Gibbons.
- “Samurai and the Culture of Japan’s Great Peace” (Yale Peabody Museum) – Zyats and Jutzi treated and prepared 11 rare Japanese books from the East Asia Library for loan for an exhibition at the Peabody Museum of Natural History. Zyats and Jutzi consulted with Peabody exhibition designers on cradle specifications. They also assisted with the page turns required during the exhibition to reduce the possibility of fading for these very colorful and light-sensitive works.

Robert F. Haas Family Arts Library Special Collections

- Merriman-Webster Dictionary Collection - Haun supervised a student assistant who completed a project to house and photographically document more than 3000 printer’s blocks used to create an extra-illustrated edition of the dictionary. The digital images of the blocks in their storage trays are now available for study of the collection and to identify the illustrations. The collection was housed in 490 artifact trays in 98 archival records boxes.
- Kerri Sancomb participated in the planning, production and installation of the following exhibitions of ALSC collections at the Arts Library and in SML’s Memorabilia Room:
 - “Beyond the Codex,” ALSC, Fall 2014
 - “Paul Rand: Pioneer by Design,” Memorabilia Room, fall 2014
 - “Illuminated Printing: William Blake and the Book Arts,” ALSC, spring 2015

- Haun took over loan assessments for the ALSC. He reviewed materials, prepared condition travel reports, and made treatment recommendations for two outgoing loans this year:
 - “Louise McCagg: Past and Present” (Hartford Art School, University of Hartford)
 - “Contemporary Art/South Africa” (Yale University Art Gallery)

Beinecke Rare Book & Manuscript Library

Collection Assessment, Object Reviews & Consultation

- Standing Weekly Conservation Reviews – Paula Zyats, Marie-France Lemay and Werner Haun reviewed the condition of 1048 items at the Beinecke, identified as at-risk or in need of conservation action by curators, and acquisitions, processing, and access services staff.
- Meserve-Kunhardt Collection Acquisition –McCarthy and Lemay assessed the condition of this Civil War era collection of photography, books, and works to help inform acquisition decisions and planning.
- Stieglitz/O’Keefe – Lemay worked with the photographers of the BRBL’s digital studio to safely image a collection of extremely-light sensitive unfixed photographs on printing-out paper taken by Alfred Stieglitz and/or Ida O’Keefe (Georgia’s sister). The imaging facilitates study of these prints, which are so sensitive that any use in the reading room would cause them to completely and irreversibly darken, making the images illegible.

In-house Treatment Highlights

- Boswell Collection – Zyats completed treatment for four 15th century documents on parchment from this collection of correspondence and manuscripts documenting the lives of over ten generations of Boswell family members.
- Osborn Collection – Jutzi treated 18 books and manuscripts from the collection. Fifteen of the treatments were in preparation for a fall 2014 exhibition. Treatments involved surface cleaning, mending, joint repair or board reattachments, and humidification/flattening.
- Osborn a14, “The kings of England since William the Conqueror, [circa 1475-1499]”- Zyats completed treatment for this parchment scroll by John Lydgate. The scroll was humidified and flattened and repairs were made to tears and weak areas with tissue and gelatin.
- Portolan charts – Zyats surface cleaned, consolidated, repaired, humidified and flattened eight of these maps of the Mediterranean Sea to address the damage caused by years of being framed.
- MS 516 Papyri Collection - Zyats completed treatments for 13 papyri from this collection. She carefully separated the fragments of waste papyri documents laminated together to be used as mummy wrappings. Each treatment results in a group of many fragments that must be identified, assembled and matched up by the BRBL’s papyrologist to be housed for research use.
- GEN MSS 914 Blake (William) Collection: Blake-Linnell tracings - Lemay completed work to remove previous damaging adhesives, mend torn corners and rehouse this set of 99 very fragile ink drawings on tracing paper. Each of the drawings was rehoused in a deep

sink mat to provide safe storage and facilitate digital imaging of the entire set by the BRBL's Digital Studio.

Outsourced Treatment

- Zyats and Lemay worked with BRBL staff to outsource treatments for some materials. Zyats and Lemay assisted with the selection of items for treatment, reviewed the treatment proposals, and evaluated the completed work. CES hosted conservators from the YCBA and private practices in the conservation lab for assessments and treatments.
- BrSides Zc12 871st, John Mix Stanley chromolithographs of American Indians – Lemay created sink mats housings for each of the chromolithographs treated last year by Sarah Dove Conservation LCC.
- GEN MSS 847 (folio), panoramic photograph of Lima, Peru by Eugenio Courret - Lemay completed housing for this hinged panoramic photograph and its acidic original boards following treatment at NEDCC.
- 1742 Collection – Zyats worked closely with Rebecca Hatcher, BRBL Preservation Coordination Librarian, to coordinate outsourced treatment with NEDCC for bound volumes from the 1742 Collection. Zyats reviewed the treatment goals with the conservators from NEDCC as part of a site visit in the fall of 2014. This project was a direct outgrowth of a condition survey undertaken by Zyats and a preservation fellow and serves as a good model for future collections-based outsourcing.

Housing Highlights

- Tibet MSS 62, Tanka Collection – McCarthy completed custom housing for the last 19 Tibetan tankas, including three additional tankas located in BRBL stacks during the renovation shifting and preparations. The tankas and their housings were viewed with great interest by His Holiness the 17th Karmapa, who visited Yale in April.
- GEN MSS 684, Stevenson (Robert Louis) Collection - Lemay, Haun, and Ansley Joe collaborated to surfaced clean, un-frame, and roll the (6 x 14 feet approx.) tapa cloth onto a large diameter roll and house it in a box for permanent storage. The box was constructed by an outside vendor based on the specifications and measurements from Haun and Lemay.
- Portolan charts - Joe created custom sink mat housings for eight portolan charts after treatments were completed by Zyats. The new housings, which replace damaging frames, will facilitate teaching use and provide protection for shelving and paging.
- Backlog custom housings – Haun and his team coordinated and completed custom housing work for a large number of objects in preparation for the BRBL renovations. These housings were a combination of outsourced boxes, in-house constructions, and retrofitted prefabricated housings.

Exhibitions, Installed

Kerri Sancomb provided planning, production, installation support, and coordination of conservation reviews for the following BRBL exhibitions:

- “Reading English: An Exhibition Celebrating the James Marshall & Marie-Louise Osborn Collection,” Fall 2014

- “Fun on the Titanic: Underground Art and the East German State,” spring 2015
- “Casting Shadows: Integration on the American Stage,” spring 2015
- “Treasures from Japan in the Yale University Library,” spring 2015

Exhibitions, Planned

- “Out of the Desert: Resilience and Memory in Japanese American Internment,” fall 2015 (SML Memorabilia Room) – Sancomb organized the conservation reviews and met with Beinecke staff to discuss protocol and procedures for digitization and loan processing. She also coordinated digitization of BRBL objects for the web component and mentored Courtney Sato, graduate student curator, through her text writing.
- [New Acquisitions] fall 2016 – Sancomb, Zyats and Lemay participated in the kick-off planning meeting for this exhibit planned for the Beinecke Library’s reopening.

Loans, Outgoing

- “Of Green Leaf, Bird, and Flower: Artists’ Books and the Natural World” (Yale Center for British Art) - Zyats completed the post-loan condition checks for 7 objects returned at the close of the exhibit.
- “Prospects of Empire: Slavery and Portraiture in 18th century Britain” (YCBA, New Haven, CT) Lemay and Zyats completed pre-loan condition checks and treatments for 15 items to be loaned in October. They carried out post-loan condition checks in December and January when the items were returned after the exhibition closed.
- “Miguel Covarrubias” (Georgia O’Keefe Museum, New Mexico) – Lemay prepared the condition report for the watercolor painting, “Alfred Stieglitz.”
- “Surrealism and Magic” (Cornell University) – Zyats prepared travel condition report for two objects.
- “Paul Strand: Master of Modern Photography” – (Philadelphia Museum of Art, PA) - Lemay prepared the loan condition report and framed the photograph in a frame sent to us by the borrowing institution.
- “Becoming Disfarmer” (Neuberger Museum, SUNY Purchase, NY) – Lemay prepared a group of photographs for loan and completed condition checks and spectrophotometry readings upon the objects’ return.
- “Red That Colored the World” (Museum of International Folk Art, Santa Fe, NM & Bowers Museum, Santa Ana, CA) – Lemay prepared the condition report, supervised packing and loading of the sealed crate for transport, and couriered the object to the first venue.
- “Florine Stettheimer” (Lebenbachhaus, Munich, Germany) - Lemay helped to facilitate treatment by the Yale Art Gallery, made adjustments to the shipping container for international transport, and arranged for raking light photography of painting with the Digital Studio before the painting left for Munich.
- “Painted Journeys: The Art of John Mix Stanley” (Buffalo Bill Center of the West, Cody, WY; Gilcrease Museum, Tulsa, OK; Tacoma Art Museum, Tacoma, WA) – Lemay oversaw the packing and crating of the requested painting for transit to its first venue.
- “Audubon to Warhol: Art of American Still Life” (Philadelphia Museum of Art) Portrait of O’Keefe by Charles Demuth (request by for next year) - Lemay removed the painting

from its frame, assessed its condition, prepared a loan assessment for the curator, and consolidated the painting's flaking cardboard edges before resealing it in the frame.

- "Decoding the Renaissance" (Folger Shakespeare Library, Washington D.C.) - Zyats completed outgoing condition documentation and traveled with the Voynich manuscript to oversee its installation.
- "Audubon Elephant Folios" (Yale Peabody Museum) – Zyats assisted with case specifications and installed the folios at the Peabody in June.
- "Gutenberg Bible" (Yale Art Gallery) – Zyats reviewed the bibles, helped to provide case and display specifications and carried out the installation at YUAG.

Loans, Incoming

"A Legacy Parlous Abiding: The Hohenzollern-Schlaberg-Hughes Collection at Yale"– Sancomb worked with YUAG staff to de-install YCBA/YUAG loan materials and pack them for return to the museums.

Lewis Walpole Library

In-house Treatment Highlights

- Folio 75 G41 849 vol.1 – Book & Manuscript Conservator, Laura O'Brien-Miller, treated this elephant folio of Gillray prints to remove heavy deposits of surface dirt, reattach the flyleaves, and mend the many tears and losses throughout the textblock.
- 49 821 vol.1, 2, and 3, Anecdotes of Distinguished Persons - O'Brien-Miller disbound each of these volumes with failing sewing to facilitate remediation of substantial mold residues. Large areas of losses were filled with Japanese papers and each textblock was rebound into its original case.
- LWL Mss vol. 64 v.1-4, Mrs. Damers' Notebooks - O'Brien-Miller paginated, guarded and resewed two of the journals and mended tears in remaining two.
- 73 760H, Useful Architecture, - O'Brien-Miller carried out surface cleaning for both the text block and cover, and mended tears throughout text, including a number of foldouts. She also flattened creases to the first few leaves and reattached the first signature.
- O'Brien-Miller completed treatment and rehousing for the mold-infested volumes in the Weston Archive.
- O'Brien-Miller completed treatments for items to be displayed in the "Landscapes of Empires" exhibition.

Exhibitions, Installed

Sancomb provided planning, production, and installation support for the following LWL exhibitions:

- "Landscapes of Empire," fall 2014

Exhibitions, Planned

Sancomb provided planning and production support for the following future LWL exhibitions:

- "Bawdy Bodies," fall 2015

Loans, Incoming

- “Landscapes of Empire,” fall 2014 – lender, Yale Center for British Art (YCBA)
- “Landscapes of Empire,” fall 2014 – lender, Beinecke Rare Book & Manuscript Library (BRBL)

Loans, Outgoing

- “Prospects of Empire: Slavery and Portraiture in 18th century Britain” (YCBA, New Haven, CT) - O’Brien-Miller completed treatment and preparation of items for loan to the YCBA for this exhibition.
- “The Critique of Reason: Romantic Art, 1760-1860” (YUAG)- O’Brien-Miller prepared loans for the YUAG’s romanticism exhibition; work included conservation treatment and hinging, condition and facilities assessment, condition reports, and packing assistance.

Manuscripts & Archives

Collection Assessment, Object Reviews & Consultation

- Haun and McCarthy met with Nancy Lyon and other archivists once a month to review items identified for conservation & housing consideration.
- MS 1, Huntington Papers, - McCarthy reviewed the condition of 61 items from the collection in preparation for a possible digitization project.
- World War II posters - Haun and McCarthy reviewed the condition of 70 posters slated to be digitized as part of the work associated with a gift from Yale’s Class of 1945.

Housings, Highlights

- MS 81, Bingham Family Papers – Haun created special housings for 11 cased images.
- Yale Authors – Collections Conservation & Housing staff (Haun, Zena Lantuch and Ansley Joe) created protective book jackets for 212 newly acquired publications by Yale authors.
- MS 829, Anne Morrow Lindbergh Papers - Haun created a custom housing for locks of hair belonging to a Lindbergh family member.

Outsourced Treatments

- *Yna16 1743, A Catalogue of the Library – Northeast Document Conservation Center (NEDCC)
- RU 307 Series 1 Box 1, Yale University Corporation and Prudential Committee Minutes - NEDCC

Exhibitions, Installed

Exhibits Program Manager, Kerri Sancomb, provided planning, production, and installation support for the following MSSA exhibitions:

- “Yale History in MssA,” SML Memorabilia Room, spring 2015
- “Association of Yale Alumni 50th Reunion Authors,” SML Memorabilia Room, summer 2014

Exhibitions, Planned

Sancomb provided planning and production support for the following future MSSA exhibitions:

- “Architect Shepard Stevens,” ALSC, spring 2016
- “Association of Yale Alumni 50th Reunion Authors,” SML Memorabilia Room, summer 2015

Loans, Outgoing

- “East of the Wallace Line: Monumental Art from Art from Eastern Indonesia” (Yale University Art Gallery) – McCarthy provided pre- and post-loan condition checks for five objects loaned for the exhibition. She met with the exhibition curator and designer to review the display needs.
- “Thomas Wilfred” (Yale University Art Gallery) – McCarthy and Haun reviewed 47 objects from the preliminary selection lists for the physical exhibition and imaging for publication. The opening date of the exhibition was delayed. This project is now on hold pending a new installation date.
- “YSOA Centennial” (Yale School of Architecture Gallery, YSOA) – Paper & Photograph Conservator, Marie-France Lemay, McCarthy, and Sancomb began discussing the details of this loan of 80 objects with MSSA. They also began strategizing how to provide the matting, framing, and mount making needed in the absence of in-house services at the YSOA.

Map Department (Rare)

Loans

“Figures of Empire: Slavery and Portraiture in 18th century Britain” (Yale Center for British Art, YCBA) – Chief Conservator, Christine McCarthy, and Exhibitions Program Manager, Kerri Sancomb, prepared 1 rare map for loan for this exhibition.

Outsourced Treatments

Lanman Globe Collection – McCarthy coordinated final treatment decisions with T.K. McClintock of TKM Studios for two of the Lanman Collections’ most important globes - a celestial and a terrestrial pair by Venetian globe maker, Vincenzo Coronelli. The conservation work for the globes was supported by a generous donation from Stephen F. Gates ’68. The treatment needs for the Coronelli globes and the rest of the collection were previously identified through a condition assessment several years earlier, which was funded by the 25th class reunion gift of Allan Bulley III ’86.

Medical Historical Collection, Cushing/Whitney Medical Library

Collection Assessment, Object Reviews & Consultation

- Haun met with Martha Horan, Preservation & Collection Management Librarian, to review items from the circulating collection for treatment/binding. Haun introduced Horan to his unit’s services and walked her through his treatment decision making process.

- Zyats visited the Medical Library on a monthly basis to assess condition issues for items from the Medical Historical Collections. She also assisted Horan with the assessment of items selected for exhibitions.
- Sancomb, provided Horan with an introduction to the exhibit production methods, workflows and planning tools used for managing library exhibitions.

In-house Treatments, Highlights

- On the Origin of Species by Charles Darwin – Jutzi, completed treatment for this first edition of Darwin’s well-known work.
- History and Present State of Discoveries Relating to Vision, Light, and Colours. (London: 1774) by Joseph Priestley – Gerrity, completed treatment for this deteriorated reverse-calf binding.

Housings, Highlights

Haun created custom housing for a set of ivory historical female anatomical models.

YUL General Collections & Technical Services

Highlights

East Asia Library – Collections Conservation & Housing staff created protective book jackets for 188 newly acquired and cataloged books with highly decorated and illustrated covers.

Projects

- Arcadia 5, Scandinavian Cataloging project – Staff treated 11 books and pamphlets and housed 88 fragile items post-cataloging.
- Brittle Books Digitization – Staff treated 81 books in preparation for imaging and housed another 70 items pre and/or post imaging.
- Class of 1945 Pamphlets Cataloging & Digital Imaging project – Staff treated nine pamphlets and housed 249 items in preparation for imaging and shelving.

Loans, Outgoing

“Figures of Empire: Slavery and Portraiture in 18th century Britain” (Yale Center for British Art) – McCarthy prepared items from the general collection for loan for this exhibition at the YCBA.

DIGITAL REFORMATTING & MICROFILMING SERVICES (DRMS)

Robert Klingenberger, Head

Staffing as of June 30, 2015:

Stephanie Sherry	Acquisitions Assistant	Level D
Agnes Wnuk	Cataloging Assistant	Level C
Edith Fortes	Acquisitions Assistant	Level B
Jef Wilson	Technical Assistant	Level B

Overview

Digital Reformatting & Microfilm Services (DRMS) in the Preservation Department provides a spectrum of services with regards to the preservation of information in volumes and on obsolete media. Through working with a wide variety of vendors DRMS preserves and provides access to the intellectual content of both the written word and audio & visual media.

Activities

Throughout the year there is a constant flow of materials from circulation and reading rooms that are identified as requiring reformatting. These can be due to brittle paper or obsolete technology in the case of audio-visual materials or simply that a research requires an easily used digital format for research purposes. The total items consisting of a variety of materials DRMS has reviewed for reformatting in fy15 is 3,432.

As part of the growing areas that DRMS services encompass, a pilot project to address reformatting needs of the Oral History of American Music (OHAM) collections was completed. DRMS has now incorporated OHAM's reformatting needs into the unit's operational workflow. This initial pilot was the Aaron Copland interview.

Projects

In addition to the steady flow of materials into the unit through circulation, there are a variety of projects that were handled throughout the year.

Arcadia Grant – Year 5; Benny Goodman Film & Audio Reformatting

This collection currently holds 133 films in need of preservation treatment. Most films date back from the mid-1950s to the early-1960s. They include a variety of formats from 16mm black & white negative or positive reels to similar footage on 35mm, and even 2" quad tapes. Generally speaking, accompanying soundtracks are on separate reels that will need to be synchronized to films at some point in the future. Most of the collection is composed of master-quality materials that came directly from the recording studio through Goodman. The primary goal was to stabilize and preserve the information content of all of the items in this collection. Once accomplished another project will allow the new access copies of the audio elements to be used to correctly pair sound with available film elements. We will then assess the feasibility of combining the two into a single access copy (in film and/or digital media) at a later date. Thus, the primary objective was preservation, but with a future option to move

forward toward the goal of creating access copies which combines the film and its audio component.

This project required coordination with Music Library staff, Film Studies Department staff, and three commercial vendors for magnetic, audio and film reformatting.

Completion of Joel Sumner Smith digitization project

This project completed a project started in 2008 which was originally managed within the Library, but external to the Preservation Department. DRMS oversaw the workflow for the remaining volumes identified as part of the original project - 223 volumes from Sterling Memorial Library and 222 volumes from the Beinecke Rare Books Library.

Yale University Library was among the first in America to collect Slavic materials systematically thanks to Joel Sumner Smith, it's Associate Librarian in the late 19th century. His Catalogue, *Slavica in the library of Yale University / compiled by Joel Sumner Smith*, was published in Leipzig by Breitkopf and Härtel in 1896. The catalog contains just over 100 pages in which Sumner Smith lists 908 titles, representing at least 2,710 volumes of monographs. Sumner Smith also catalogued serials in this edition; a true number is difficult to estimate but the number may be as high as 9,000 volumes. Much of the titles in the original catalog were digitized as part of the original project.

Project Coordination

DRMS also coordinate large reformatting projects lending expertise on vendors and workflow questions. These coordinated projects are generally managed by the owning collection with Robert Klingenberg serving as an advisor or managing small portions of the work.

North Africa Judaica

This project was part of the larger conservation survey project. Six manuscript items were identified for digitization. DRMS provided format specifications and quality control for digitization.

TITLE	File Name Prefix
Segulot u-refu' ot ye-goralot	ms_1825_s11_b0024_f008_d1054_
[Manuscript high holiday prayerbook written by members of the Halimi family]	ms_1825_s15_b0029_f002_d1053_
[Collection of rabbinic decisions from Fes]	ms_1825_s01_b0003_f002_d0011_
[Collection of rabbinic decisions from Fes]	ms_1825_s01_b0001_f001_d0012_
[Collection of rabbinic decisions from Fes]	ms_1825_s01_b0001_f002_d0013_
Midrash Peli'ah and other texts	ms_1825_s04_b0010_f001_d0008_

Kissinger AV- MssA

Dr. Henry A. Kissinger donated his personal papers to Yale University. The collection is housed in MssA and consists of approximately one million documents and objects covering Dr. Kissinger's extraordinary life as a diplomat, scholar, teacher, and private citizen.

The complete collection, including Dr Kissinger's government papers held by the Library of Congress, is shared between the Library of Congress and YUL. DRMS consulted on the digitization of the papers and coordinated the digitization of 129 audio-visual materials from the collection.

Stanley Milgram Collection – MssA

DRMS coordinated the digitization of the audio tape materials from the Stanley Milgram Collection, Manuscripts & Archives.

From 1960 to 1963 Milgram was an assistant professor of psychology at Yale. During this time he conducted his innovative and controversial experiments on obedience to authority. The experiments provoked controversy relating to the ethics of experimenting on human subjects. Milgram's findings appeared in numerous articles. He later described his work in the book *Obedience to Authority: an Experimental View* (1974).

Technology

Item Condition Evaluation (ICE) Workflow Tool was launched.

This tool allows for the efficient tracking of all materials through the full workflow in DRMS— from title search to QC.

The ICE Workflow Tool was created to extract information about the item from the catalog; make note of the department or unit that first recognized the issue; record the type of damage or deterioration present; seek input from the curators/selectors about the available treatment options (where multiple options are present); document the remediation process following from the decision on through the quality control of the replaced, repaired or reformatted item and to track both human and financial resources necessary to complete the process.

Typical workflow systems assign tasks to users in a predictable manner. ICE workflow is far less predictable and requires flexible on-the-fly decisions. A Status-based queue system was developed to allow custom workflow paths to be developed as unexpected issues are encountered. Users access queues of available work via a Dashboard, which allows them to choose their next task. An administrative view of the Dashboard shows the pulse of the system. A Problem Dashboard quickly highlights delays and bottlenecks. The status-based queue design allows additional modules to be added to the system with little or no effect on existing modules.

HathiTrust

DRMS and Catalog & Metadata Services (CMS) coordinate the submission of digitized books to HathiTrust. Over the last year Yale University Library has submitted 223 out-of-copyright titles to HathiTrust and we have linked to 678 out-of-copyright titles where HathiTrust or Internet Archive held good quality digital versions of a title held by YUL. DRMS staff is responsible for creating the e-variant bibliographic records following CMS cataloging practice.

Move to 344 Winchester

In January the Library began planning for the move of its Technical Services Department from Sterling Memorial Library to space adjacent to BRBL Technical Services in 344 Winchester. The space formerly occupied by University Shared Services would be turned over to the Library and renovated to meet its needs. As noted above, it was determined that there was enough space for both DRMS and Library Technical Services. In the months since that decision there have been numerous meetings with architects and facilities staff to discuss plans and space layouts. The DRMS staff have been engaged through Klingenberger in the specific design needs of their area. The amount of time devoted to the planning and ultimately the move in 2016 will continue to be significant during FY2016

Summary of Annual Statistics

- Items Searched – 4,847
- Decisions (reformat, link to existing digital copy, microfilm, transfer to LSF-R) – 3,432
- Prep for Reformatting – 911
- Quality Control of completed reformatting – 1,001
- Catalog Updates – 10,587
- Digital Surrogates linked – 1,031

DIGITAL PRESERVATION SERVICES (DPS)

Euan Cochrane, Digital Preservation Manger

Overview

Digital Preservation Services (DPS) provides services and support for preserving content that is already in digital form. This can be content produced through library digitization projects (digitized), content produced by external organizations and received at the library in digital form (received digital), or content that was created digitally (born digital); such as, text documents, databases, audio-visual material or Computer Aided Design (CAD) content.

DPS is currently focused on establishing comprehensive infrastructure to maintain access to digital content for as long as it is needed. While this process is underway DPS is offering consulting services to aid with digital preservation related activities including:

- The acquisition of old digital content (e.g. preservation considerations, disk imaging, content recovery from old digital media)
- Access to old digital content (e.g. help for working with migration and emulation tools or using original hardware to interact with old content)
- The creation of digital content for long-term preservation (e.g. preferred formats)
- Advice and guidance for preserving digital content

Activities

Digital Preservation Repository

The year began by continuing to work with the consulting firm AVPreserve (AVPS). AVPS developed requirements for a digital preservation system that would enable the evaluation of off-the-shelf systems that may meet YUL needs. To aid AVPS in their work Cochrane organized various meetings with stakeholders and provided documentation and in-person feedback on their approach. The work continued through December at which time AVPS presented their report to the library. The report recommended implementing a commercial digital preservation system. Much of the next two months was spent on undertaking additional due diligence work to evaluate the available commercial systems and developing a report based on the findings of the work. This included hosting both vendors for presentations at Yale University Library, developing a non-disclosure agreement to enable sharing of information with vendors and thoroughly evaluating the two systems. The due diligence work demonstrated that either system would meet the majority of YUL needs. It was determined that quotes should be requested from both vendors in order to ascertain which best fit YUL's budget, timeline, and context (in relation to availability of developers and IT support within YUL and what the vendor could provide).

After sharing the results of the due diligence work with the Library Executive Committee (LEC), Cochrane received approval to move forward with developing a Request for Quotation (RFQ) document to send to the vendors. This was developed and sent to the vendors in May. By June quotes were received and in July a vendor had been selected.

General Collection Digital Content project

Alongside this major initiative Cochrane continued to work on back-up of digital content from the general collections onto managed storage thereby mitigating the risk of bit-rot and general risk of data loss. This involved two streams of work including backing up the “preservation” copies of data YUL has been sent on hard drives and tapes and backing up of CD-ROMs and floppy disks from the general collections. Progress with copying the content from the hard drives and tapes has been very slow due to ongoing issues with copying to the current storage technology that is in place from the new location at 344 Winchester. While close to 35 terabytes of data have been copied, progress has stalled while awaiting a new storage technology to be implemented. The new technology will speed up copying by at least an order of magnitude.

The students are making great progress with the CD-ROMs imaging over 500 in fy15 and the majority of the discs will be finished by the end of FY16. Of the 525 CD-ROMs 21% could not have data extracted. The 525 CD-ROMs contained over 385,000 files with over 170 different identifiable file formats amongst them. Many of which are rare and pose significant challenges for anyone attempting to access them on modern computers.

Once finished a summary report will be written outlining the results and providing options for next steps. This report will include analysis of the content, the process and analysis of data loss.

Emulation as a Service

bwFLA Emulation as a Service (EaaS) is emerging as an option for providing access to the content on old media. Cochrane has been working closely with the bwFLA team based in Freiburg over the past year on a number of activities related to enabling the use of emulation technology for preservation purposes. Activities have included investigating options for dealing with the licensing issue.

Cochrane has contacted Microsoft and Autodesk, a company focused on CAD applications, but interested in the possibilities presented by EaaS. He has made great progress with both organizations regarding the use of emulation as a means of accessing obsolete applications. He has also hosted David Rosenthal who wrote a report for the Mellon Foundation on Emulation and Virtualization for preservation.

Cochrane has applied for a joint grant with Rhizome in NYC, the EaaS team at the University Freiburg and others in Europe to research some new concepts related to EaaS. The grant was approved and the project is underway. Cochrane has also presented on emulation related topics numerous times to audiences nationally, internationally as well as internal to Yale. There is great interest in the emulation domain.

Move to 344 Winchester

The Department planned a move from Sterling Memorial Library to a new facility at 344 Winchester Avenue requiring a great deal of preparatory work in FY15. This included specifying

requirements for the spaces, reviewing documentation, packing all the equipment and arranging schedules to ensure, among other things that students' work schedules would not be affected by the move. In addition to the work related directly to the move, was the work to aid with fundraising for the new facility. This included presentations and preparation of materials and examples to highlight the work being done in digital preservation.

Timeline

July 2014

- Began work with AVPS to develop digital preservation system requirements and evaluate solution options. This included establishing relationships with AVPS representatives, organizing workshops with stakeholders from across Yale, planning and scoping the work and providing my own requirements.

August 2014

- Established available options for using Microsoft products in emulation solutions under current licensing agreement. This involved finding contacts at Microsoft, working through them to identify the appropriate person to talk with, organizing and participating in multiple conversations over the phone and obtaining written clarification from Microsoft.
- Developed digital preservation policy framework. This included organizing a policy committee and committee meetings, drafting a policy document, gathering feedback on the document and making updates and presenting the policy framework to the Library Executive Committee (LEC) for approval.
- Managed work with AVPS to develop requirements and recommendations for providing digital preservation system functionality. This included ensuring meetings were organized, corralling participants and facilitating visits by AVPS.
- Helped faculty with advice on long term preservation of digital content. This involved attending meetings and providing guidance afterwards by email.

September 2014

- Presented to EBSCO representatives in Ipswich, MA on long-term preservation of digital content and emulation as a preservation solution. EBSCO are interested in this area as their customers are asking for long-term preservation for their products.
- Presented to the Metadata committee on digital preservation services and preservation metadata.
- Attended and contributed to the University's research data policy committee meetings on an ongoing basis. This committee is working to develop a policy for the management, preservation, ownership and sharing of research data created at Yale by faculty and researchers.
- Presented to the LEC on digital preservation and the work underway with AVPS to develop requirements for a digital preservation system.

- Helped faculty with advice on long-term preservation of digital content including linguistics and finance faculty who have been developing databases but are unsure how to properly manage them for long term access.
- Submitted collaborative grant for emulation as a service Research and Development work in conjunction with Rhizome at the New Museum in New York and the University of Freiburg in Germany.

October 2014

- Attended Training on the Trustworthy Repositories Audit and Certification ISO 16363 standard in London in anticipation of gaining certification for Yale's digital preservation service.
- Presented to CSSSI (Center for Science & Social Science Information) staff about emulation and digital preservation.
- Provided a booth at the University's founders' day event in the Nave at SML. A faculty member subsequently got in contact for help with accessing content from their floppy disks which was provided. This involved approximately half an hour actual work to do the data recovery but led to a lot of good will received from the faculty member.
- Chaired a panel on preservation of and access to born digital materials for the Diasporic Literary Archives Workshop.
- Presented at Yale Technology Summit on emulation and digital archives.

November 2014

- Reviewed papers for International Digital Curation Conference
- Contributed to Digital Preservation Network (DPN) calls to provide requirements and feedback from YUL's perspective

December 2014

- Presented on digital preservation system establishment options report developed by AVPS to the LEC
- Presented on Emulation for Digital Preservation and Access at the Coalition for Networked Information Meeting in Washington DC.
- Began due diligence work to review commercial options for a digital preservation system. This involved further evaluating the systems, gathering additional feedback, working with the vendors to gather more information and writing a report on the results.

January 2015

- Managed visits from vendors to demonstrate their digital preservation system products for the ongoing due diligence work including Ex Libris and Preservica representatives.
- Developed report on digital preservation system due diligence work and presented it to the LEC.
- Developed presentation on emulation for reproducibility for CSSSI workshop

February 2015

- Contributed to a metadata retreat to discuss how to manage metadata across the library system at Yale.

March 2015

- Presented to the Advisory Committee on Library Policy on digital preservation challenges and our roadmap

April 2015

- Presented on Emulation for Digital Preservation and Access at the Coalition for Networked Information Meeting in Seattle. The presentation was well attended and very well received.
- Presented at CurateCamp NYC on disk imaging and automation of disk imaging workflows.
- Reviewed submissions for a major funding organization

May 2015

- Developed digital preservation system (DPS) Request for Quotation (RFQ) document outlining YUL's digital preservation system needs and detailed feature and integration requests in a form the vendors could respond to with specific quotes.
- Worked with the procurement team, finance, Library IT and others to manage the RFQ process with the digital preservation system vendors.

June 2015

- Drafted a Digital Preservation Storage Policy. This outlines the decision making process for storing digital content within the digital preservation system
- Reviewed quotations for DPS functionality received from the vendors, developed a recommendation and presented the recommendation to the LEC for approval.
- Achieved agreement on DPS implementation from the LEC and began work to procure the selected product and services (Preservica).

Statistics

In total, 525 CD-ROMs were imaged in fy 2015. Of those, 413 had some data extracted which indicates that at least some of the sectors on the discs were not bad/data had not been completely lost. Or, about 21% of discs could not have data extracted for some reason (probably indicating lost data).

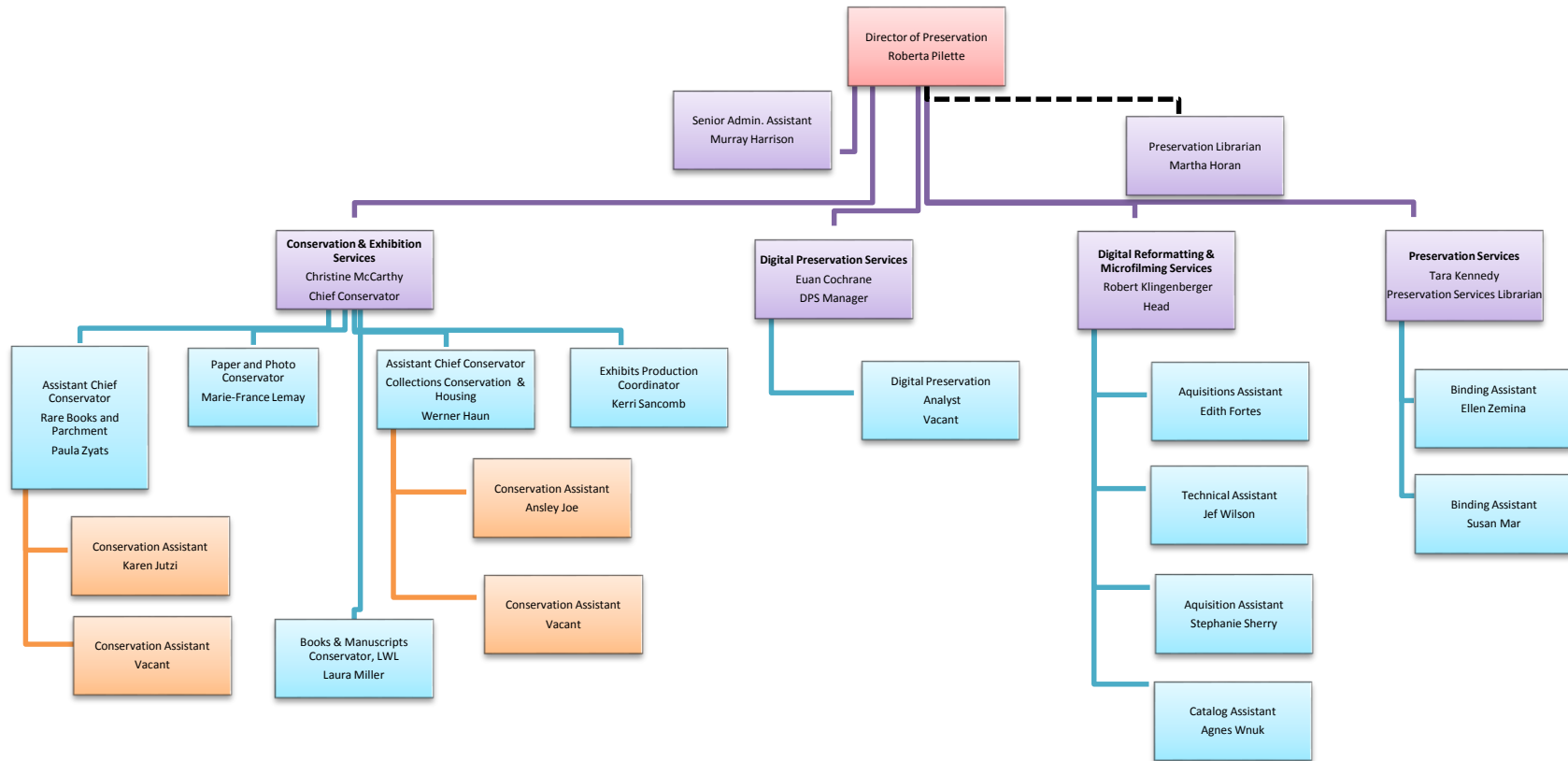
The total data size that was extracted was 131 Gigabytes.

On average each CD had 317 megabytes of data extracted from it.

There are 383,353 files amongst the 413 discs and 131 GB of data. There are 171 identifiable formats amongst those files. 74,159 (19% of) files did not have identifiable formats indicating a need to analyze the files and create new format identification signatures.

If that equated to 1 piece of paper per file (which is an underestimate, it would certainly be a lot more pieces of paper equivalent than that), then that would equate to 174 archival boxes.

Appendix I
Program and Staff Organization Chart
 June 30, 2015



Appendix II
Preservation Department Statistics
Fiscal Years 2012-2015

NEEDS IDENTIFIED	Total # Items from all Library Collections			
Reviewed for Preservation Action(s)	FY 2012	FY 2013	FY 2014	FY 2015
<i>Total Items Reviewed:</i>	8,924	25,762	28,385	35,483
<i>Percentage Change Previous Yr (+/-)</i>		65%	9%	20%
<i>% of overall Library Collection</i>	0.064%	0.184%	0.203%	0.253%

NEEDS ADDRESSED	Total # Items from all Library Collections			
Preservation Action(s) Completed	FY 2012	FY 2013	FY 2014	FY 2015
<i>Conserved/Rebound</i>	890	13,934	9,557	12,910
<i>Housed</i>	2,350	3,851	5,716	11,930
<i>Digitized</i>	2,307	304	1,347	1,680
<i>Total Items Work Completed:</i>	5,547	18,089	16,620	26,107
<i>Percentage Change Previous Yr (+/-)</i>		69%	-9%	36%
<i>% of overall Library Collection:</i>		0.129%	0.119%	0.186%
<i>% of Items identified:</i>		70%	59%	74%

	Total for all Library Collections			
Preservation Exhibition & Loan Support	FY 2012	FY 2013	FY 2014	FY 2015
<i>Exhibitions supported</i>	40	33	19	11
<i>Items exhibited</i>	0	1,312	1,367	901
<i>Loans supported</i>	20	26	22	22
<i>Items loaned</i>	150	83	26	104
<i>Percentage Change Previous Yr (+/-)</i>		86%	-1%	-38%

	Total # for Library, Campus, and General Public			
Preservation Outreach & Education	FY 2012	FY 2013	FY 2014	FY 2015
<i>Consultations & Inquiries</i>	373	341	237	184
<i>Outreach/Teaching Sessions</i>	7	24	9	13
<i>Number of attendees</i>	47	508	113	168
<i>Tours</i>	8	11	18	5
<i>Number of Visitors</i>	8	35	49	13

**Appendix III
Conservation & Exhibition Statistics**

YUL, ALL COLLECTIONS – CONSERVATION ACTIVITIES

CONSERVATION ACTIVITIES	TOTAL	CONSERVATION ACTIVITIES	TOTAL
Objects Assessed/Reviewed	9297	Loans for Exhibition	22
Objects Treated (in-house & outsourced)	1479	Total Objects Prepared for Loan	104
Objects Housed (in-house & outsourced)	4713	Exhibitions Installed	11
Outsourced Treatment Projects	10	Total Objects Prepared for Exhibition	901

YUL, ALL COLLECTIONS - ARL PRESERVATION STATISTICS

MATERIALS/FORMATS	INHOUSE TREATMENT	INHOUSE HOUSING	OUTSOURCED TREATMENT	OUTSOURCED HOUSING
Books/Bound	717	3809	8	207
Unbound	209	159	3	44
Photographic	421	177	0	0
Art Objects	113	20	8	51
Historical/Ethnographic Objects	0	38	0	18
Other	0	103	0	87
Totals:	1460	4306	19	407

CONSULTATION REQUESTS

TOPICS/TYPES OF REQUESTS	LIBRARY STAFF	FACULTY & STUDENTS	OTHER YALE AFFILIATES	NON-YALE AFFILIATES	TOTAL
Lab Visit or Teaching Session	9	4	0	1	14
Conservation Treatment/Binding	7	2	0	0	9
Care & Handling; General Preservation Questions	3	0	0	0	3
Housing	4	0	1	0	5
Personal Collections	3	3	0	1	7
Digitization, exhibition, or loan consultation	4	0	0	0	4
Careers in Conservation; Internships	0	0	0	3	3
Disaster Response	0	0	0	1	1
Technical Study; Scientific Analysis	2	1	1	1	5
Other	5	1	1	6	13
TOTALS:	37	11	3	13	64

Appendix IV
Events Requiring Emergency Response and Recovery
FY 2014-2015

Date	Where	Library Materials Affected	Library Staff hours used in response & recovering materials (hours)
7/3/2014	Haas Arts Library, fire suppression pipe leak	None	6.00
8/18/2014	Medical Library, basement	Books, framed prints	10.50
10/16/2014	Eli Express truck lift gate	Books	2.00
3/19/2015	L&B Reading Room leak	Books	1.25
4/6/2015	SML B18, photo documentation area; steam pipe leak	Photo equipment, computer equipment, archival supplies	6.00
Total Library Staff Hours:			26.00

