

WGBH Educational Foundation – Public Broadcasting Preservation Fellowship

**IMLS Laura Bush 21<sup>st</sup> Century Librarian Program**  
***Public Broadcasting Preservation Fellowship***  
**WGBH Educational Foundation**  
**June 9, 2017**

WGBH Educational Foundation (WGBH) is seeking funding from IMLS for a Public Broadcasting Preservation Fellowship (the Fellowship) for students enrolled in non-specialized graduate programs to pursue digital preservation projects at public broadcasting organizations around the country. The Fellowship will serve the purpose of a.) expanding on the successful National Digital Stewardship Residency cohort model to provide graduate students with the opportunity to gain hands-on experience in the practices of audiovisual preservation; b.) addressing the need for digitization of at-risk public media materials in underserved areas with little current representation in the American Archive of Public Broadcasting; and c.) increasing audiovisual preservation education capacity in Library and Information Science (LIS) graduate programs around the country.

WGBH has developed partnerships with LIS and Archival Science programs at five universities: University of North Carolina at Chapel Hill, University of Missouri, University of Oklahoma, San Jose State University, and Clayton State University. Each school will be paired with a public media station, identified by WGBH, that will serve as a host site for two consecutive Fellowships for students enrolled in the Graduate Program. The first Fellowship will run over the 2018 spring semester, from January-April of 2018; the second will run over the summer semester from June-August of 2018. The five host sites will overall support ten total Fellowships.

Over the course of the Fellowship, each Fellow will inventory, digitize, and catalog a small collection of audiovisual media; generate technical and preservation metadata; and process the digital files for ingest into the American Archive of Public Broadcasting (AAPB), a collaboration between WGBH and the Library of Congress for the long-term preservation of public media. The Fellows will collaborate with a Faculty Advisor at their university to document their work in a 3-5 page handbook and video demo. The Fellowship will also support a digitization station at each university for the use of the Fellows and future students enrolled at the universities. The Faculty Advisor at each university will be responsible for creating a plan for the future use of the digitization station and the documentation created by the Fellows. Throughout the course of the Fellowship, the Project Team at WGBH will provide ongoing education for the Fellows around audiovisual and digital preservation topics through a series of instructional webinars.

By the end of the Fellowship, each university will have access to digitization equipment, documentation, and a sample lesson plan for incorporating these materials into a future audiovisual preservation curriculum. Additionally, each Fellow will have digitized 30-60 hours of at-risk public media material for preservation in the AAPB. WGBH will present the materials created through the Fellowship, including the documentation and lesson plans, on a project website for the benefit of other graduate programs with an interest in providing more opportunities for students to gain expertise in the preservation of audiovisual materials. The Fellows will present their work to the archival community at SAA 2018.

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**Statement of Need**

The audiovisual records of the 20th century are increasingly at risk. A recent study from AVPreserve estimates that there are over 254 million unique and valuable sound items in collection organizations across the United States that have not yet been digitized<sup>1</sup>; that's without factoring in video, which could easily double or triple the estimate for sound. Experts have estimated that there remains at maximum a 15-20 year window of opportunity for the preservation of legacy audio and video.<sup>2</sup> Moreover, "audiovisual materials are the fastest-growing segment of our nation's archives and special collections," as reported by the Library of Congress.<sup>3</sup>

However, the level of available education in audiovisual preservation has not kept pace with the increasing need for skilled practitioners to manage this content. Currently, only three graduate programs in the country provide an opportunity to specialize in audiovisual preservation: New York University's Moving Image Archiving and Preservation program, the Selznick School of Film Preservation at the University of Rochester (film only), and the Master of Library and Information Science (MLIS) with specialization in Media Archival Studies offered at the University of California Los Angeles (UCLA).<sup>4</sup> Few other programs provide graduate students with the training and resources to gain in-depth experience with audiovisual materials. Moreover, of more than 50 American Library Association-accredited programs in the United States, only three -- UCLA, Simmons College and the University of Texas at Austin -- offer the opportunity to connect with the broader moving image archival community through an Association of Moving Image Archivists (AMIA) student chapter.

WGBH Educational Foundation (WGBH) is seeking to address this problem by creating a semester-long, funded graduate fellowship in partnership with non-specialized Library and Information Science programs (LIS) towards the digital preservation of public media materials. The Public Broadcasting Preservation Fellowship ("the Fellowship") will provide students with the opportunity to select, curate and digitally preserve a targeted collection of at-risk audio or audiovisual materials from a local public broadcasting station or organization, while developing documentation to build their school's capacity to support audiovisual preservation education.

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<sup>1</sup> Lyons, Betram, Rebecca Chandler, and Chris Lacinak. "Quantifying the Need: A Survey of Existing Sound Recordings in Collections in the United States." AVPreserve, 2014. <http://www.avpreserve.com/wp-content/uploads/2015/05/QuantifyingTheNeed.pdf>

<sup>2</sup> Casey, Mike. "Why Media Preservation Can't Wait: The Gathering Storm." IASA Journal 44 (2014): 14-22. [http://www.avpreserve.com/wp-content/uploads/2015/04/casey\\_iasa\\_journal\\_44\\_part3.pdf](http://www.avpreserve.com/wp-content/uploads/2015/04/casey_iasa_journal_44_part3.pdf)

<sup>3</sup> Council on Library and Information Resources and The Library of Congress, "The Library of Congress National Recording Preservation Plan." Washington DC: December 2012, 6.

<sup>4</sup> AMIA Education Committee. <https://amiaeducomm.wordpress.com/education/masters-programs/>

Public broadcasting organizations, whose primary focus is on production of new material, frequently do not have a mandate to invest in preservation of their older works, or the funds to do so even if they did. Of especial concern are the materials created by broadcasting organizations existing in states that are not currently represented in the American Archive of Public Broadcasting (AAPB), or stations which provide content for, by and/or about underrepresented communities: i.e., rural stations and organizations that offer a platform to marginalized voices. A strong need exists for preservation intervention to ensure that these unique and valuable audiovisual materials do not fall out of the historic record.

WGBH is in a key position to support these preservation initiatives due to our role as co-steward of the AAPB, a collaboration between WGBH and the Library of Congress (“the Library”) to coordinate a national effort to preserve significant historical content created by public media over the past 60 years. By prioritizing public broadcasting organizations holding under-represented content as host sites for Fellows, the Fellowship will play a key role in ensuring that these voices are represented in the AAPB as well as providing the Fellows with the opportunity to work with unique, valuable, and at-risk material.

## **Project Design**

Our goal with this Fellowship is to build upon the National Digital Stewardship Residency (NDSR) model to create opportunities for current graduate students, as well as support LIS programs in developing curricula and building capacity to support students learning to manage audiovisual materials beyond the end of the Fellowship.

The design of the project will be loosely based on WGBH’s IMLS-funded AAPB NDSR project, currently ongoing with residencies concluding on June 23, 2017. The NDSR program, which began at the Library in 2013, addresses the need for a dedicated community of professionals with the knowledge and technical skills to ensure the long-term viability of the digital record by matching recent postgraduate degree recipients with cultural heritage institutions to manage digital stewardship projects. AAPB NDSR is the first geographically distributed NDSR program and the first to focus on audiovisual materials, placing post-graduate, early career professionals at public media organizations to complete an 11-month-long digital stewardship project. Some of the most notable successes of the NDSR program include the immersive nature of the projects, providing an “opportunity to gain the kind of hands-on experience that is increasingly needed on a national scale,”<sup>5</sup> and the cohort model that offers residents the chance to learn from each other as they encounter challenging material and “make connections with their peers at the cohort level, as well as within the larger professional community.”<sup>6</sup>

WGBH has developed partnerships with and received letters of project support from LIS and Archival Science programs at five universities: University of North Carolina at Chapel Hill, University of Missouri, University of Oklahoma, San Jose State University, and Clayton State University. Each school (“the Graduate Program”) will be paired with a public media station, identified by WGBH, that will serve as a host site (“the Host”) for two consecutive Fellowships

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<sup>5</sup> Mink, Meridith Beck. “Keepers Of Our Digital Future: An Assessment of the National Digital Stewardship Residencies, 2013-2016.” CLIR, 2016. <https://www.clir.org/pubs/reports/pub173/pub173.pdf>

<sup>6</sup> Ibid.

for students enrolled in the Graduate Program. The first Fellowship will run over the 2018 spring semester, from January-April of 2018; the second will run over the summer semester from June-August of 2018. The five host sites will overall support ten total Fellowships.

The Graduate Programs have been selected due to their interest in developing resources for students to gain expertise in handling audiovisual materials, and their proximity to public media organizations with historically significant content from regions or content under-represented in the AAPB. The public media organizations targeted to participate in the project include Georgia Public Broadcasting in Atlanta, Georgia; the Oklahoma Educational Television Authority (OETA) in Oklahoma City, Oklahoma; the Center for Asian-American Media (CAAM) in San Francisco, California; WUNC in Chapel Hill, North Carolina; and KOPN in Columbia, Missouri. As final confirmation is still pending for KOPN, the Project Team has also identified an alternate public media partner for the University of Missouri at KPIA, Columbia's NPR member station.

### **Phase One: Planning**

At the start of the Project, each Graduate Program will identify a faculty member with a strong interest in audiovisual preservation to serve as a Faculty Advisor to students participating in the Fellowship program. The Faculty Advisor will serve as the primary contact with WGBH and the Host, and will join the Fellows in attending the audiovisual training events and webinars provided by WGBH over the course of the Fellowship, and work with the Fellows to develop documentation and curriculum materials around the management of audio and/or audiovisual media. The Host will also identify a primary contact who will orient each Fellow to the station's history and content, and serve as the Fellow's supervisor while they are onsite. To round out the Fellow support on the ground, WGBH and the Graduate Program will identify an external Local Advisor who is currently employed in the field of audiovisual preservation to serve as an additional resource for the Faculty Advisor, the Host and the Fellow. Each Local Advisor will receive a \$1,000 stipend for their participation in the project.

Beginning in the fall of 2017, the Faculty Advisor will work with the department to promote the Fellowship to their currently enrolled students. The process of identifying Fellows may look different for each Graduate Program, depending on their student body, their academic and bureaucratic requirements, and the content represented by the Host; however, each program will work collaboratively with the Host and WGBH to ensure that selection is fair and competitive. Prospective Fellows will be judged on academic achievements, demonstrated interest in management of audiovisual materials, and demonstrated interest in and/or understanding of the media perspectives represented by the Host (for example, in the case of CAAM, preference may be given to applicants with a knowledge of Asian-American history and culture.) The first cohort of Fellows will be selected and notified by December 2017.

During the fall of 2017, the WGBH Project Coordinator will also work with the Host to preliminarily identify two appropriate audiovisual collections for the spring and summer Fellows to focus on during their time at the Host. Each collection will contain at least 30 hours of historically significant audio or video content on analog tape. Once the collections have been digitized, they will be made available through the AAPB at [americanarchive.org](http://americanarchive.org).

Based on the physical format of these collections, the Project Coordinator will also support the Graduate Programs in the funding for and installation of a digitization station that the Fellows will use to digitize the materials. The three Graduate Programs that offer onsite education at a physical campus (University of North Carolina Chapel Hill, University of Missouri, and University of Oklahoma) will maintain their digitization stations on-campus for the use of future students in the program and the further development of a curriculum in audiovisual preservation. Through the grant, WGBH will provide the funding to the University for a deck(s) that can play back the physical format(s) of the collection, an analog-to-digital converter, associated cables, and engineer services to set up the station, as well as hard drives to store the digitized content for submission to the AAPB. The Graduate Program will provide a computer, software (to be recommended by WGBH), and physical space for the digitization station.

Clayton State University is an online education program without a formal campus; however, they have a robust partnership with the Georgia Archives. Therefore, the Project Team will work with Clayton State and the Georgia Archives to develop a digitization station that students can use at the Georgia Archives. At San Jose State University, which is also an entirely online program, digitization equipment will be purchased and designated for use of the students through a partnership with the Bay Area Video Coalition (BAVC). BAVC preservation staff will also serve as the Local Advisors for the project. The Fellows will focus on developing documentation and training videos for the use of students enrolled in the virtual curriculum at SJSU.

As in the AAPB NDSR program, each Fellowship will begin with an Immersion Week, during which the Fellows will gain a primer in the handling and digitization of sound and audiovisual material, metadata schemas, appraisal of public broadcasting materials, and key digital preservation concerns for time-based media. During the planning phase, the Project Manager and Project Coordinator will virtually convene the Local Advisors to review the AAPB NDSR Immersion Week curriculum (included in supporting documents) and identify any areas of improvement for the workshops and program. The team will identify and select instructors, hold a meeting among instructors to develop the immersion week schedule, identify and select facilities for the workshops, coordinate Fellow and instructor room and board, create and share the Immersion Week agenda, and complete the Immersion Week.

Additionally, during this phase WGBH will develop a calendar of events, including virtual and in-person educational and professional development opportunities that Fellows will attend throughout the Fellowship. Information about Immersion Week and the event calendar, as well as information about the host sites and project partners, will be made available online by December 2017 through a project website created by the Project Coordinator.

### **Phase Two: First Fellowship**

The first Fellowship will begin with an Immersion Week hosted in January 2018 (before the beginning of the spring semester) by the Project Team at WGBH in Boston. The Project will cover costs for Fellows to travel to Boston for the five-day instructional program, along with a representative from each Host. Faculty Advisors will also attend Immersion Week at the expense of their Graduate Program and participate in the curriculum alongside the Fellows. In addition to participating in the educational curriculum developed by the Project Coordinator, the Fellows will also spend time during Immersion Week with AAPB Project Manager Sadie Roosa and

Special Projects Assistant Charles Hosale, who will provide an introduction to the AAPB preservation workflows and metadata requirements. Presentations and documentation from Immersion Week will subsequently be made available on the project website.

After Immersion Week, Fellows will return to their Graduate Program and begin their Fellowships at the host sites, working 16 hours a week for 14 weeks. The first cohort of Fellows will: a) inventory and assess the selected material (10 hours); b) digitize the materials, using the equipment setup prepared during the Planning phase of the project (approximately 65 hours); c) create detailed catalog records for the digitized material (during digitization); d) collaborate with AAPB archivist Charles Hosale to implement the AAPB's workflow for submission of the materials to the AAPB, including the creation of proxy files, and generation of preservation and technical metadata, and ingest of metadata into AAPB's Archival Management System (42 hours); e) research the significance of the collection and create a special collection within the AAPB (28 hours); f) write a blog post about the collection for the station and the AAPB (6 hours); and g) collaborate with the Faculty Advisor to document their audiovisual preservation work the creation of a 3-5 page handbook and a video tutorial, using the facilities available at their university, for the benefit of future students (56 hours). Sadie Roosa and Charles Hosale will be responsible for reviewing all AAPB ingest materials created by the Fellows. Fellows will receive a regular stipend for their work, distributed on a bi-weekly basis for a total of \$5,152.

Using the successful AAPB NDSR cohort model, Fellows will keep in touch with each other throughout their Fellowships virtually through online collaboration tools, allowing for continual collaborative learning and the development of shared resources. Additionally, Fellows will have brief bi-weekly check-ins with their supervisor at the Host, regular meetings with their Faculty Advisor (minimum monthly), and regular meetings with their Local Advisor (minimum monthly). Fellows will also attend three webinars developed and scheduled by the Project Coordinator, along with their Faculty Advisor. After each webinar, the Project Coordinator will solicit feedback from the Fellows and Faculty Advisors on the Project's educational programming and incorporate that feedback into an improved curriculum design for the second Fellowship. Fellows, Graduate Programs, and the WGBH project team will provide project updates to the digital stewardship and moving image and audio archiving community via the project blog, hosted on the website, and social media.

During the first Fellowship, the Graduate Programs will repeat the selection process to identify a second cohort of Fellows, who will be selected and notified by the time the first Fellowships end in April 2018. By the end of the first Fellowships, the Fellows will have successfully digitized a collection of public broadcasting material for long-term preservation and made it available through the AAPB; they will also have generated initial documentation which the second round of Fellows will test and refine while undergoing their own Fellowships. At the close of the first Fellowship, each of the first round of Fellows will meet with the selected second Fellow at their university to share their experience of the project and work at the Host.

Over the course of the first Fellowship Project Manager and Project Coordinator will also identify a third-party professional in the field of audiovisual digital stewardship to conduct a summative evaluation of the project. The summative evaluation will be conducted to gather data from the Fellows, Hosts and Faculty Advisors in the form of interviews and questionnaires about

the effectiveness of the Project and the education and growth of the Fellows, which will be collected in the form of a report and shared with project partners for their use in further developing curriculum materials and training programs around audiovisual preservation. Interviews with the Fellows will be conducted in the month after the close of each Fellowship.

### **Phase Three: Second Fellowship**

The second Fellowship, beginning in June 2018, will follow a similar structure as the first, beginning with an Immersion Week in early June. The Immersion Week curriculum and subsequent educational programming for the Fellowship will be refined based on feedback from the first Immersion Week.

Summer Fellows will work an average of 25 hours per week at their Host over the course of 9 weeks -- the same total number of hours as the first cohort of Fellows, but distributed differently to accommodate the shorter summer semester -- and will receive the same stipend. They will also be responsible for reviewing, describing, and digitizing a collection of material at their Host station and ingesting into the AAPB, as well as creating a collection page and promoting the collection through a blog post; however, rather than generating documentation about their work, they will be responsible for testing and refining the resources developed by the first cohort of Fellows to ensure that they can be used and understood by future students at the Graduate Program.

The Fellowships will culminate with a presentation and celebration at the Society of American Archivists conference in August of 2018. Fellows from both the first and second cohorts will be fully funded to attend the conference and share their work with the broader archival community at a capstone event for the Project.

Summer Fellows will also be required to collaborate with their Faculty Advisor to host at least one workshop or training event in order to continue building knowledge and interest in the preservation of sound and audiovisual materials among their fellow students. The planning for this event will take place in the summer during the course of the Fellowship, but the event itself will be held in the fall semester, after the majority of students have returned to classes, in order to ensure broad impact.

### **Phase Four: Evaluation**

After the end of the Fellowships, the Faculty Advisor will review the materials created over the course of the Fellowships and create an open plan describing how the resources created through the Fellowship will be used to further develop training programs in audiovisual preservation at the Graduate Program. All documentation created by the Fellows and Faculty Advisors will be shared through the project site. Materials created by the Fellows will also be made available through the AAPB Wiki by the Project Coordinator.

The Project Team will conduct a final review of all materials ingested into the AAPB by the Fellows over the course of the project. Subsequently, the Project Coordinator will publicize the AAPB special collections created by the Fellows, highlighting the historic content preserved through the Fellowship program.

The Independent Evaluator will also use this period to conduct any final interviews with Fellows and create their final report. This report will be shared with project partners as well as the Project Team, who will use the conclusions of the Independent Evaluator in creating their final report for IMLS.

### **Diversity Plan**

The Project is designed to provide opportunities for students to learn about the preservation of time-based media in areas of the country which have previously had little access to dedicated audiovisual preservation education, with the goal of growing capacity and increasing the diversity of the field. Currently, dedicated audiovisual training is currently only available through programs in New York, NY; Rochester, NY; and Los Angeles, CA. The Project will provide hands-on experience and training in these specialized skills for students in the American South, Midwest, and students in distance education graduate programs, as well as the Faculty Advisors who will support them and continue to develop audiovisual preservation curricula at their Graduate Programs. Extensive collaboration between the Project Team, Graduate Programs, and Local Advisors will ensure that the training materials developed through the program include the necessary subject matter expertise while also serving the specific communities represented by the Graduate Programs.

Students selected to participate in the Project will have the opportunity to utilize local knowledge of their communities during the course of their Fellowships by working to preserve regional public media content. Hosts for the project have been selected with consideration of the need to include under-represented perspectives in the AAPB and expand the record of the nation’s public broadcasting history. The AAPB currently holds no digitized content from Georgia or Oklahoma, making it an extremely high priority to preserve a record of public broadcasting in those states. While the AAPB does hold public television content from North Carolina, no radio stations from the state are currently represented; moreover, WUNC maintains the only full-time station-based reporter in the in the South devoted to covering issues important to communities of color. In San Francisco, the Center for Asian-American Media was selected as a host organization due to its organizational commitment to “presenting stories that convey the richness and diversity of Asian American experiences.”<sup>7</sup> KOPN in Missouri was selected as a host station for its historical significance as a community radio broadcaster and the first source in the region for “programming by and about women, African-Americans, seniors, children, rural citizens, environmentalists, and many other populations often ignored by conventional local media.”<sup>8</sup>

The Project will be widely marketed to students at participating Graduate Programs; the only requirement for participation will be that the student must be enrolled at the Graduate Program through the end of the Project. Students applying to join the Project may be evaluated based on a demonstrated interest in and/or understanding of any under-represented population perspectives represented by the Host which they may be responsible for describing and cataloging (for example, if the Host’s holdings contain significant Asian-American content, preference may be given to applicants with a knowledge of Asian-American history and culture); otherwise, the

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<sup>7</sup> CAAM. “About CAAM.” <https://caamedia.org/about-caam/>

<sup>8</sup> KOPN. “Our History.” <http://kopn.org/drupal/node/12>



Project Team and Graduate Programs will recruit Fellows without regard to a person's race, color, religion, national origin, sex, sexual orientation, age, disability, veteran status or other characteristic protected by law. Students will be well compensated for their participation in the Project at a rate of \$23/hour, with all associated travel costs covered by the program, allowing a wide array of students to apply for the position regardless of their financial resources.

### **National Impact**

The Council on Library and Information Resources analysis of the NDSR program concluded that the program has had a significant lasting impact on host organizations, citing successes in raising awareness about digital stewardship, improving digital preservation practices and workflows, and “gaining the attention of higher-level administrators to advocate for funding.”<sup>9</sup> We anticipate that participation in the Project will have a similar impact on Graduate Programs and Hosts involved in supporting the Project -- raising awareness of audiovisual preservation, creating best practices and workflows for audiovisual preservation by students, and gaining the attention of administrators and educators at both the Graduate Program and the Host.

The Project is designed to develop lasting resources and relationships that allow for the five participating Graduate Programs to continue providing audiovisual preservation education for students enrolled in these programs beyond the close of the project. By the time the project ends, each Graduate Program will have access to a digitization station that allows for reformatting of at least one common analog format; it will also have extensive documentation, created and refined by the Fellows, that will form the basis of curriculum materials for future coursework in audiovisual and digital preservation. As part of their requirements for the Fellowship, the Fellows will have led a workshop for other students at their Graduate Program to further disseminate the knowledge that they have gained over the course of the Project. The Graduate Program will also have developed a working relationship with the Host through the course of two Fellowships that may lead to future collaborations beyond the end of the project, allowing the Program to provide opportunities for more students to work with important local historical materials and the Host to continue preserving their at-risk content. Finally, the Project will also allow the AAPB to build an ongoing relationship with the Host, encouraging them to continue the work of preserving their at-risk content through their existing partnership with the AAPB and providing lasting value to researchers, educators, and the public.

The resources created by the Project will also benefit multiple institutions beyond those participating in the Project. The documentation created by the Fellows, in collaboration with their Faculty Advisors, will be made publicly available for broad re-use through the project website and the AAPB wiki. The plans created by the Faculty Advisors for incorporating audiovisual preservation education into their future coursework will also be made available through the project site, making them readily adoptable for other institutions who are interested in providing more audiovisual preservation education to their own students. Because of the range of institutions involved -- including both physical programs and online education programs, with different faculty sizes, institutional policies, and bureaucratic requirements -- other institutions will have the opportunity to assess the recommendations made across the five participating

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<sup>9</sup> Mink, Meridith Beck. “Keepers Of Our Digital Future: An Assessment of the National Digital Stewardship Residencies, 2013-2016.” CLIR, 2016. <https://www.clir.org/pubs/reports/pub173/pub173.pdf>

Graduate Programs to determine how they could best be implemented at their own institution. All project materials, excluding the digitized video and audio content, will be made available under a Creative Commons CC-BY-NC 4.0 license. All metadata created by the Fellows will be made available in the public domain. All digitized video and audio will remain copyrighted by the station (unless more broadly shared through a CC license or public domain), but the materials will be made available online for research, educational and informational purposes in the AAPB Online Reading Room (ORR), and preserved at the Library of Congress for posterity. At the end of the Project, the project website will be duplicated on the AAPB Wiki, and copies of the site contents will be shared with all Graduate Programs so that they may continue sharing documentation and demonstrating the lasting effects of the Project on their own institutional websites.

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**Public Broadcasting Preservation Fellowship**

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**WGBH Educational Foundation**

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**IMLS Laura Bush 21st Century Librarian Program**

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**Schedule of Completion****1-Oct****Phase 1: PLANNING**

Graduate Programs identify Faculty Advisors  
Project Team and Graduate Programs identify Local Advisors  
Graduate Programs finalize application requirements for Fellowship  
Project Coordinator creates program website  
Graduate Programs promote Fellowship to enrolled students  
Hosts identify collection and physical formats for digitization  
Project Team purchases components for digitization station  
Graduate Programs install digitization station for use of Fellows  
Project Team convenes Local Advisors for curriculum planning  
Graduate Programs and Hosts meet to discuss Fellowship applications



Graduate Programs select and notify first cohort of Fellows  
Project Coordinator finalizes Immersion Week and event curriculum  
Project Coordinator posts curriculum to project website

**Phase 2: FIRST FELLOWSHIP**

Immersion Week

Fellows inventory and assess of materials  
Fellows digitize and catalog materials  
Project Team hosts Webinar 1  
Graduate Programs promote second Fellowship to enrolled students  
Fellows prepare and submit materials for ingest into the AAPB  
Project Team hosts Webinar 2  
Graduate Programs and Hosts meet to discuss second Fellowship applications

Fellows and Faculty Advisors create documentation and video tutorials  
Project Team hosts Webinar 3  
Graduate Programs select and notify second cohort of Fellows  
Project Team QC materials and complete ingest  
Fellows create special collection and write blog post  
Fellows check in biweekly with Hosts

Fellows check in biweekly with Faculty Advisors  
Fellows meet monthly with Local Advisors  
Project Team evaluates and updates curriculum  
First cohort of Fellows meet with second cohort of Fellows

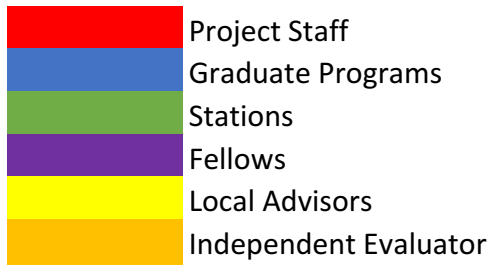
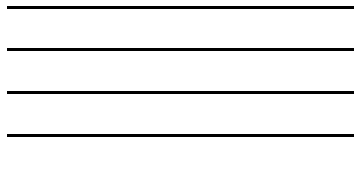
### **Phase 3: SECOND FELLOWSHIP**

Immersion Week 2  
Fellows inventory and assess of materials  
Project Team hosts Webinar 1  
Fellows digitize and catalog materials

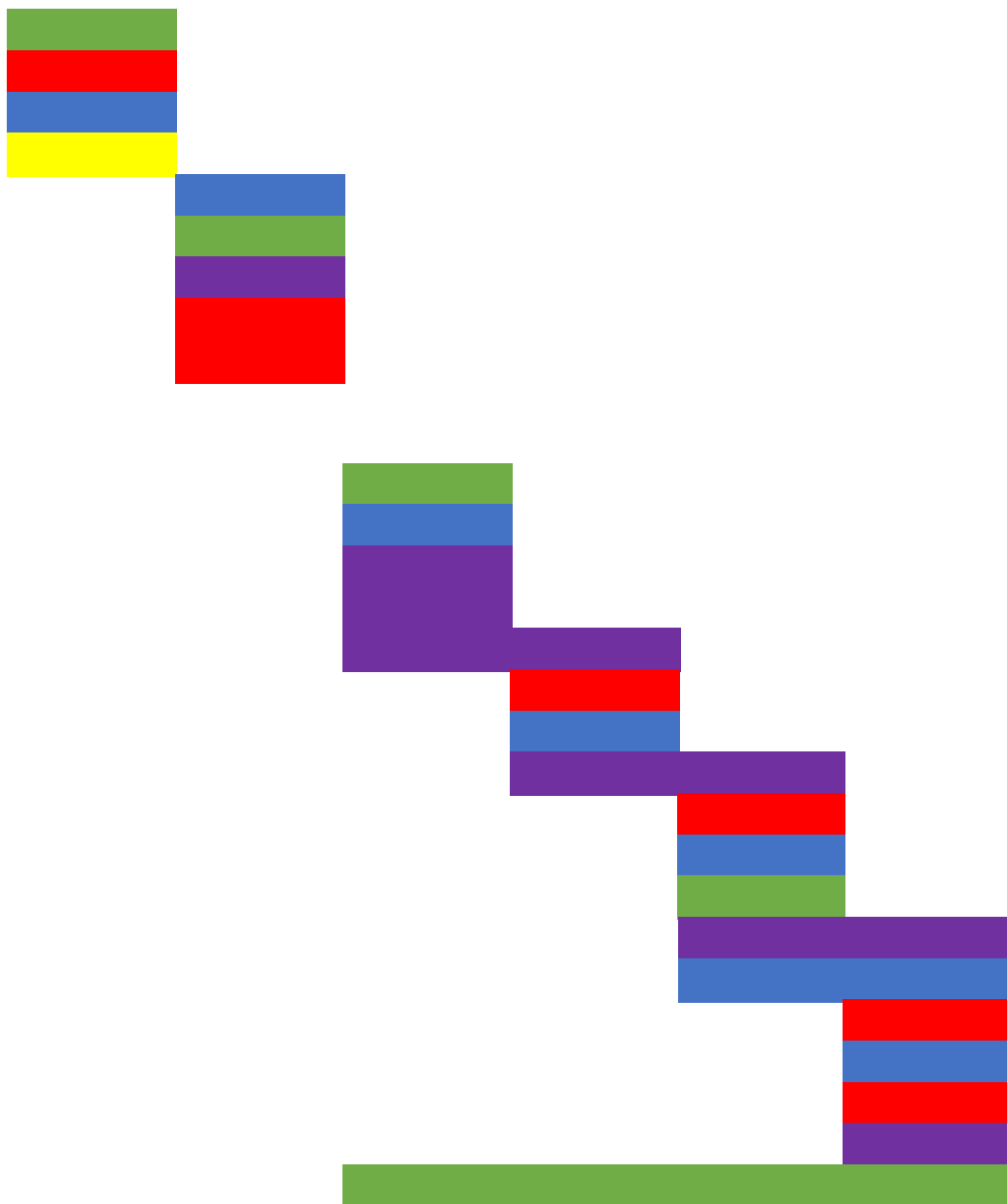
Fellows and Faculty Advisors test and update documentation  
Project Team hosts Webinar 2  
Fellows prepare and submit materials for ingest into the AAPB  
Project Team hosts Webinar 3  
Project Team QC materials and complete ingest  
Fellows create special collection and write blog post  
Fellows check in biweekly with Hosts  
Fellows check in biweekly with Faculty Advisors  
Fellows meet monthly with Local Advisors  
First and second cohort of Fellows attend SAA and present their work

### **Phase 4: EVALUATION AND DISSEMINATION**

Project Team distributes CFP for Independent Evaluator  
Project Team hires independent evaluator  
Independent evaluator conducts interviews with Fellows  
Independent evaluator submits final report to Project Team  
Faculty Advisors create sample plans for a/v curriculum integration  
Fellows host event for other enrolled students in their program  
Project Team publicizes special collections created by Fellows  
Project Coordinator posts documentation to AAPB Wiki  
Project Team analyzes results of evaluation  
Project Team submits final report



1-Nov      1-Dec      1-Jan      1-Feb      1-Mar      1-Apr      1-May





**1-Jun**

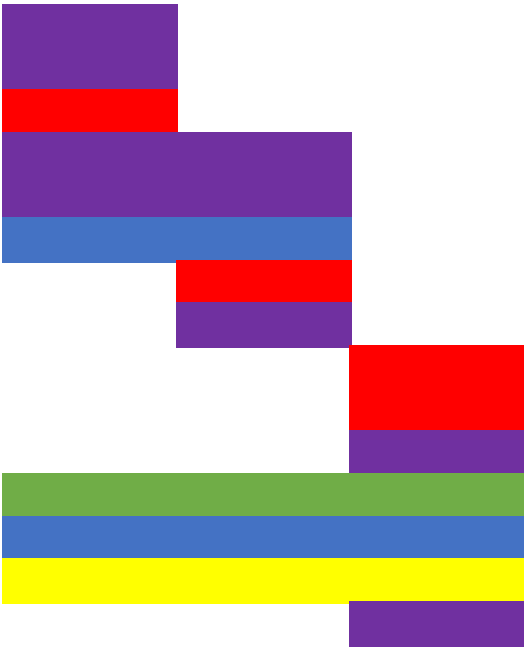
**1-Jul**

**1-Aug**

**1-Sep**

**1-Oct**

**1-Nov**





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**June 9, 2017**

**DIGITAL PRODUCT FORM**

**Introduction**

The Institute of Museum and Library Services (IMLS) is committed to expanding public access to federally funded digital products (i.e., digital content, resources, assets, software, and datasets). The products you create with IMLS funding require careful stewardship to protect and enhance their value, and they should be freely and readily available for use and re-use by libraries, archives, museums, and the public. However, applying these principles to the development and management of digital products can be challenging. Because technology is dynamic and because we do not want to inhibit innovation, we do not want to prescribe set standards and practices that could become quickly outdated. Instead, we ask that you answer questions that address specific aspects of creating and managing digital products. Like all components of your IMLS application, your answers will be used by IMLS staff and by expert peer reviewers to evaluate your application, and they will be important in determining whether your project will be funded.

**Instructions**

You must provide answers to the questions in Part I. In addition, you must also complete at least one of the subsequent sections. If you intend to create or collect digital content, resources, or assets, complete Part II. If you intend to develop software, complete Part III. If you intend to create a dataset, complete Part IV.

**PART I: Intellectual Property Rights and Permissions**

**A.1** What will be the intellectual property status of the digital products (content, resources, assets, software, or datasets) you intend to create? Who will hold the copyright(s)? How will you explain property rights and permissions to potential users (for example, by assigning a non-restrictive license such as BSD, GNU, MIT, or Creative Commons to the product)? Explain and justify your licensing selections.

All documentation created for the Public Broadcasting Preservation Fellowship project, including educational materials developed for Immersion Week and webinars, handbooks and video tutorials created by the Fellows and curriculum plans developed by the Faculty Advisors, will be released under the (CC BY-NC 4.0) Creative Commons Attribution Non-Commercial 4.0 International License. This license will allow the materials to be widely reused by the community, while ensuring the Fellows continue to receive credit for their work as they embark on their post-graduate careers. Rights to the intellectual content of the public media assets digitized through the course of the project and the associated catalog records will remain with the original rights-holders. Station partners will grant the AAPB an irrevocable non-exclusive, royalty-free, worldwide perpetual license for the AAPB's discretionary uses of the digitized files, including but not limited to cataloging, preservation, copying and migration for preservation and access purposes, exhibition, display, and making works available for non-commercial public access. Files will be available on location at WGBH and the Library of Congress ("the Library"); the majority of files will also be made available for streaming access through

the AAPB, based on review of potential rights restrictions, privacy concerns, or cultural sensitivities, as described below.

**A.2** What ownership rights will your organization assert over the new digital products and what conditions will you impose on access and use? Explain and justify any terms of access and conditions of use and detail how you will notify potential users about relevant terms or conditions.

WGBH and the Graduate Programs will each own components of the digital content (educational materials, handbooks and lesson plans) created for this grant. These materials will be open-source and restricted to non-commercial applications. The Project Team will be highly involved in outreach and dissemination of the new documentation via listservs, social media, and a panel presentations at SAA. Digitized materials will be available for non-commercial public access through the AAPB Online Reading Room (ORR) at americanarchive.org. Users accessing the website must agree to be bound by the ORR Rules of Use, which includes a commitment that materials will be used for research, educational, and informational purposes only and cannot be downloaded from the site. In some cases, where rights to digitized materials cannot be determined and a fair use justification cannot be made, digitized materials may be restricted for viewing onsite at WGBH and the Library only.

**A.3** If you will create any products that may involve privacy concerns, require obtaining permissions or rights, or raise any cultural sensitivities, describe the issues and how you plan to address them.

The nature of public media content often makes it difficult to completely determine the copyright status of all content, even when a program as a whole is owned by a station or organization which donates it to the AAPB under a Deed of Gift. The AAPB uses an established series of criteria to determine whether a fair-use argument can be made to provides access to digitized materials for research, educational, and informational purposes in the ORR. All materials are available to view on location at WGBH or the Library of Congress reading room, except where privacy concerns or cultural sensitivities require further restrictions. These materials are reviewed on a case-by-case basis in collaboration with legal staff at WGBH and the Library of Congress to determine an acceptable level of access. In order to allow the Fellows to create curated collections and publicly share their work, we will work with host organizations to ensure that materials that may be expected to require such restrictions are not selected for digitization during this project, and that the majority of the content preserved can be made available in the ORR.

## **Part II: Projects Creating or Collecting Digital Content, Resources, or Assets**

### **A. Creating or Collecting New Digital Content, Resources, or Assets**

**A.1** Describe the digital content, resources, or assets you will create or collect, the quantities of each type, and format you will use.

Fellows in the project will generate between 300 and 600 hours of digital media files from public media organizations around the country, as well as catalog and metadata records for those materials. They will also generate at least five video tutorials and five digitization handbooks. Faculty Advisors will create five plans for an audiovisual preservation curriculum. Additionally, Project Staff will create six educational webinars for the project.

Digitized video preservation files will be created as JPEG2000 files in an .MXF wrapper and audio

preservation files will be created as PCM files in a Broadcast WAV wrapper. Video tutorials and webinars will be created as AVC files in a .mp4 wrapper. Documentation will be formatted as PDF, and catalog and metadata records will be stored as XML.

**A.2** List the equipment, software, and supplies that you will use to create the content, resources, or assets, or the name of the service provider that will perform the work.

The equipment and software used to create the digital media files and video tutorials will vary based on the requirements of each university and the content held at each station. Technical metadata records will be generated using MediaInfo, a widely-used program that extracts and displays technical information about media files. Educational webinars will be created using Adobe Connect. Documentation will be created in Microsoft Word and transformed into PDF.

**A.3** List all the digital file formats (e.g., XML, TIFF, MPEG) you plan to use, along with the relevant information about the appropriate quality standards (e.g., resolution, sampling rate, or pixel dimensions).

Master materials will be digitized according to the following standards:

Video - 10-bit JPEG2000 reversible 5/3 in a .MXF Op1a wrapper with all audio channels captured and encoded. Audio - PCM coding, BWF (Broadcast WAV) RF64 format, 96 kHz, 24 bit sampling

An equal number of access proxy files for streaming view will also be created. Video encoding: 8-bit h.264/AVC in a .mp4 wrapper with audio channels encoded in AAC at 48.0 KHz / 128 Kbps; audio encoding: 192 kbps MPEG-1, Audio Layer 3 (48 kHz / 16 bits)

Video tutorials and webinars will be encoded for distribution in the same format as proxy files. Documentation will be stored as PDFs.

## **B. Workflow and Asset Maintenance/Preservation**

**B.1** Describe your quality control plan (i.e., how you will monitor and evaluate your workflow and products).

Assets will be digitized by the Fellows, and then reviewed at WGBH by AAPB Special Projects Assistant Charles Hosale to verify quality and compliance with AAPB standards. WGBH performs QC on master files delivered using QCTools, a free and open-source software tool developed by the Bay Area Video Coalition which uses libraries from the FFmpeg project to analyze and understand digitized video files through use of audiovisual analytics and filtering.

Documentation around the use of digitization equipment will be generated by the first cohort of Fellows, with extensive feedback from Faculty Advisors, then reviewed and tested by the second cohort to ensure that it is understandable and repeatable.

**B.2** Describe your plan for preserving and maintaining digital assets during and after the award period of performance. Your plan may address storage systems, shared repositories, technical documentation, migration planning, and commitment of organizational funding for these purposes. Please note: You may charge the federal award before closeout for the costs of publication or sharing of research results if the costs are not incurred during the period of performance of the federal award (see 2 C.F.R. §

200.461).

For media assets, MD5 checksums will be generated by the Fellows at the time of the media's digitization, as well as technical metadata via MediaInfo. Master files and metadata will then be sent to the Library of Congress, which is responsible for long-term preservation for the AAPB, and proxy files and metadata will be sent to WGBH for inclusion in the AAPB. The Library's National Audio-Visual Conservation Center ("NAVCC") has unprecedented capabilities and capacities for digitally preserving and reformatting historical audiovisual media formats and safekeeping in a petabyte-level digital storage archive. The current capacity of the NAVCC Digital Asset Management archival storage system is 9.8 petabytes, migrating data tape every 5-7 years, and keeping abreast on current standards in the field for audiovisual file format used for normalization. At the present time, the digital preservation workflows for historical recorded sound and television materials at the NAVCC are generating an average of 90 terabytes of digitally stored preservation content per month. Stored on data tape between two separated geographical locations, the secure locations and extensive workflow actions reflect the Library's commitment to preserving the audio-visual heritage of our nation. The NAVCC has optimal storage facilities for these materials, which are stored at 50 degrees Fahrenheit and 30% relative humidity. The Library has established legal agreements and partnerships with library and archival organizations, rights holders, creators and educators—including the public broadcasting community—to ensure that a wide array of culturally significant audiovisual materials are preserved to best practices and standards. NAVCC's collection management system supports MD5 and SHA-1 checksums and workflow actions, include validation of these checksums, ensuring safe transfer between storage media received from donors and the data center's storage.

Documentation will be hosted by WGBH on Amazon S3 and linked through the project website; after the close of the project, it will be integrated into the AAPB website and Wiki created by IMLS-funded AAPB NDSR program residents (launching July 2017). Universities will also be responsible for maintaining copies of digital PDFs generated by Fellows and advisors at their respective institution.

### **C. Metadata**

**C.1** Describe how you will produce any and all technical, descriptive, administrative, or preservation metadata. Specify which standards you will use for the metadata structure (e.g., MARC, Dublin Core, Encoded Archival Description, PBCore, PREMIS) and metadata content (e.g., thesauri).

Fellows will be trained in PBCore and its associated controlled vocabularies at the beginning of the project. As they view and digitize content, they will enter descriptive, administrative, and fixity metadata in a PBCore-compliant spreadsheet, which they will then transform into PBCore XML using the transformation tool in the AAPB's Archival Management System (AMS). Fellows will generate technical metadata through MediaInfo, which will be uploaded into the AMS and transformed into PBCore XML instantiation files. Technical and fixity metadata will be provided to the Library of Congress along with digitized files; the Library will then record further preservation metadata through the Merged Audio Visual Information System ("MAVIS"), the NAVCC's database of assets.

**C.2** Explain your strategy for preserving and maintaining metadata created or collected during and after the award period of performance.

Descriptive and technical records created over the course of the project will be stored through the AAPB's AMS, an open-source metadata management and digitization process management system and

database that runs on a LAMP stack (Linux, Apache, MySQL, and PHP/Python/Perl) and is based on the PBCore data model.

Preservation metadata will also be managed by the Library at the NAVCC. For any metadata not supported by MAVIS, a sidecar file is held for future, parseable description in XML schema standards commonly adopted by the preservation community, including NARA's AudioVisual Metadata Extension Schema reVTMD for process history, and PREMIS for a record of preservation-relevant events.

**C.3** Explain what metadata sharing and/or other strategies you will use to facilitate widespread discovery and use of the digital content, resources, or assets created during your project (e.g., an API [Application Programming Interface], contributions to a digital platform, or other ways you might enable batch queries and retrieval of metadata).

Once records are ingested into the AMS, they will be harvested via a PBCore API and ingested into the Solr index for the public-facing AAPB website at [www.americanarchive.org](http://www.americanarchive.org). The metadata records will also be exposed through the Open Archives Initiative protocol for harvesting by other aggregating collections, such as Digital Commonwealth and Digital Public Library of America (“DPLA”).

## **D. Access and Use**

**D.1** Describe how you will make the digital content, resources, or assets available to the public. Include details such as the delivery strategy (e.g., openly available online, available to specified audiences) and underlying hardware/software platforms and infrastructure (e.g., specific digital repository software or leased services, accessibility via standard web browsers, requirements for special software tools in order to use the content).

Proxy files will be created for all digitized assets and uploaded to Sony Ci, a media cloud platform. Proxies will then be linked to the metadata records in the public-facing AAPB website through the Solr index. The AAPB website is a Ruby on Rails application, using the open-source discovery platform user interface discovery platform Blacklight to access Solr, and running on an AWS EC2 instance managed by the cloud computing service OpsWorks. Source code for the AAPB is available at <https://github.com/wgbh/aapb2>. For the most part, media will be made openly available through the ORR; users will be required to read and accept a usage agreement before viewing content. Some files may be restricted to on-location use at WGBH and the Library of Congress.

Video tutorials created by the Fellows and webinars created through Adobe Connect will be uploaded to the AAPB Vimeo account and linked through the project website. PDFs created over the course of the project will also be linked through the project website, and, after the close of the project, hosted on Amazon S3 and linked through the AAPB Wiki.

**D.2** Provide the name(s) and URL(s) (Uniform Resource Locator) for any examples of previous digital content, resources, or assets your organization has created.

AAPB Website: <http://americanarchive.org/>

Sample AAPB asset: [http://americanarchive.org/catalog/cpb-aacip\\_333-19f4qtr6](http://americanarchive.org/catalog/cpb-aacip_333-19f4qtr6)

Sample AAPB webinar: <https://vimeo.com/128527728>

AAPB NDSR Website: <https://ndsr.americanarchive.org/>

Open Vault Website: <http://openvault.wgbh.org/>

### **Part III. Projects Developing Software**

#### **A. General Information**

**A.1** Describe the software you intend to create, including a summary of the major functions it will perform and the intended primary audience(s) it will serve.

n/a

**A.2** List other existing software that wholly or partially performs the same functions, and explain how the software you intend to create is different, and justify why those differences are significant and necessary.

n/a

#### **B. Technical Information**

**B.1** List the programming languages, platforms, software, or other applications you will use to create your software and explain why you chose them.

n/a

**B.2** Describe how the software you intend to create will extend or interoperate with relevant existing software.

**B.3** Describe any underlying additional software or system dependencies necessary to run the software you intend to create.

n/a

**B.4** Describe the processes you will use for development, documentation, and for maintaining and updating documentation for users of the software.

n/a

**B.5** Provide the name(s) and URL(s) for examples of any previous software your organization has created.

n/a

#### **C. Access and Use**

**C.1** We expect applicants seeking federal funds for software to develop and release these products

under open-source licenses to maximize access and promote reuse. What ownership rights will your organization assert over the software you intend to create, and what conditions will you impose on its access and use? Identify and explain the license under which you will release source code for the software you develop (e.g., BSD, GNU, or MIT software licenses). Explain and justify any prohibitive terms or conditions of use or access and detail how you will notify potential users about relevant terms and conditions.

n/a

**C.2** Describe how you will make the software and source code available to the public and/or its intended users.

n/a

**C.3** Identify where you will deposit the source code for the software you intend to develop:

Name of publicly accessible source code repository:

URL:

#### **Part IV: Projects Creating Datasets**

**A.1** Identify the type of data you plan to collect or generate, and the purpose or intended use to which you expect it to be put. Describe the method(s) you will use and the approximate dates or intervals at which you will collect or generate it.

n/a

**A.2** Does the proposed data collection or research activity require approval by any internal review panel or institutional review board (IRB)? If so, has the proposed research activity been approved? If not, what is your plan for securing approval?

n/a

**A.3** Will you collect any personally identifiable information (PII), confidential information (e.g., trade secrets), or proprietary information? If so, detail the specific steps you will take to protect such information while you prepare the data files for public release (e.g., data anonymization, data suppression PII, or synthetic data).

n/a

**A.4** If you will collect additional documentation, such as consent agreements, along with the data, describe plans for preserving the documentation and ensuring that its relationship to the collected data is maintained.

**A.5** What methods will you use to collect or generate the data? Provide details about any technical requirements or dependencies that would be necessary for understanding, retrieving, displaying, or

processing the dataset(s).

n/a

**A.6** What documentation (e.g., data documentation, codebooks) will you capture or create along with the dataset(s)? Where will the documentation be stored and in what format(s)? How will you permanently associate and manage the documentation with the dataset(s) it describes?

n/a

**A.7** What is your plan for archiving, managing, and disseminating data after the completion of the award-funded project?

n/a

**A.8** Identify where you will deposit the dataset(s):

Name of repository:

URL:

**A.9** When and how frequently will you review this data management plan? How will the implementation be monitored?

n/a