

## **Outstanding in Their Field: Leadership Institute for Rural and Small Libraries**

### **Introduction**

As the premier organization representing rural and small libraries, the Association for Rural and Small Libraries (ARSL) seeks funding to develop a pilot leadership institute, “*Outstanding in Their Field*,” for directors and managers working in rural and/or small libraries. ARSL recognizes the uniqueness of rural and small libraries and is committed to providing professional development that builds capacity and excellence within this community of practice. To this end, ARSL will develop an immersive institute tailored to elevate those in key positions in rural and small libraries to step confidently into leadership roles in their libraries, in their communities, in our association, and in the larger library field.

With \$249,947 over three years, the IMLS grant will fund planning, curriculum design, participant selection and participation, instruction, and evaluation. Thirty individuals from across the country, representing a variety of communities and diverse populations, will engage via in-person, online, and conference experiences over an 18-month period to learn and grow their capacity to lead themselves, others, and their library, as well as gain confidence to step into leadership roles in their community and the library profession. ARSL will leverage strategic partners and key stakeholders to recruit diverse participants from throughout the country as well as to plan and implement this pilot project. The curriculum will be informed by Educopia Institute’s Nexus: Leading Across Boundaries with modifications informed by the unique situations that rural and small library managers and directors face. Assessment throughout and evaluation at the end of the institute will be key to continuous modification and the development of leadership instructional material that can be used for future cohorts. Materials developed will also be available to others via the ARSL online platform as well as through partners. Over their tenure, leadership institute participants will learn and practice leadership skills while gaining capabilities to become community catalysts and library change agents. Key priorities for this leadership institute are to grow strong rural and small library leaders, strengthen community leadership, build ARSL organizational capacity, and evaluate the pilot for future effectiveness and sustainability.

### **Broad Need**

According to the 2017 American Library Association paper, “*Rural Libraries in the United States: Recent Strides, Future Possibilities, and Meeting Community Needs*,” roughly one-third of all U.S. public libraries serve areas with populations of 2,500 or fewer people. Of these, two-thirds of the library directors have not earned a Master’s in Library Science. The average Association for Rural and Small Libraries (ARSL) member comes from a library with less than three employees and the average salary for the library director is \$28,508. The salary, in particular, can have an impact on the ability to recruit and hire staff with leadership and/or managerial experience. In some communities, being the “librarian” pays slightly better than working at the gas station mini mart. Even when libraries have strong leadership, the small number of staff results in a limited ability to grow new leaders within those rural and small libraries.

The ARSL board has recognized this need and arranged for members to attend leadership institutes offered by other organizations. However, when staff from rural or small libraries have participated in leadership institutes that focus on general, and often much larger libraries, they have reported to the ARSL board that the content and examples often have not directly informed the issues they face in rural libraries and small communities.

In addition, rural and small library staff are seeking support and professional development from ARSL. In the last four years, ARSL membership has increased by 225% to over 1,800 members and conference attendance increased by 50%. By 2019, the conference venue had to be expanded to fit 750 attendees and it sold out within one week. At the same time, the ARSL board is taking on more national leadership and seeking savvy leaders to represent the interests of rural and small libraries on the national stage. In short, ARSL needs to expand the professional development opportunities they offer and to build a deep bench of leaders for the future of the organization.

## **Project Design**

### Project Teams

Former ARSL President and Rural Library Expert, Kieran Hixon will be the Project Director for this initiative, working closely with the ARSL board, ARSL Executive Director, an advisory team, mentors, evaluators, and instructors. Mr. Hixon's co-leader on designing the overall curriculum, identifying the instructors, and overseeing the external evaluation process is Sharon Morris (Master's Library and Information Science, Ph.D. in Managerial Leadership in Libraries, ARSL member). The ARSL Executive Director, Kate Laughlin will serve as primary contact and grant administrator, coordinating logistics, such as managing contracts, overseeing event logistics, and tracking grant deliverables. Kathy Zappitello, ARSL President 2020 - 2021, will serve as primary advisory and liaison to the ARSL Board. The Project Staff and Resume documents attached provide more details on this core team.

To ensure grant design and implementation fidelity, an Advisory Team will convene in Fall 2020 and meet online throughout the 3-year grant period. Members of this team will include rural library leaders and ARSL members: Kathy Zappitello, Executive Director, Conneaut Public Library (Ohio), Cicely Douglas, Library Director at City of South Sioux City (Nebraska) and another library director to be confirmed. These representatives, as well as the ARSL board members, have extensive experience as rural libraries and know what is required to lead strong rural libraries as community assets. They also can direct the institute core team on how participants can contribute uniquely to the library profession. They will assist in recruiting diverse participants as well as support the institute content development, mentor recruitment, and other aspects of the institute.

Several national organizations will have representation on the Advisory Team.

- Mary Hirsh, Deputy Director of the Public Library Association has coordinated leadership institutes for PLA and internationally and will provide guidance and support

for recruitment, curriculum design, instructor selection, equity/diversity/inclusion instruction, and evaluation.

- Dr. Linda Hofschire, Director of Library Research Service and the Research Institute for Public Libraries will provide her expertise in instruction, public library evaluation, and data and reporting by helping with the institute design and evaluation, as well as serving as an instructor.
- Dr. Chance Hunt, Senior Lecturer, Information School at University of Washington will provide expertise on evaluation, curriculum, and instruction.
- Timothy Owens, State Librarian, State Library of North Carolina and ARSL Board liaison to the Chief Officers of State Library Agencies (COSLA) will share his extensive experience working with ARSL, IMLS, and leadership initiatives. He will also engage state library agencies throughout the country to aid in recruitment, content dissemination, and evaluation.
- OCLC/WebJunction, individual to be determined, will provide expertise in online instruction and offer the platform for institute participants to present to national audiences.
- ARSL and COSLA will also identify a state library Continuing Education Coordinator to serve as liaison to sharing institute curriculum and participant content throughout the U.S. via state libraries.

Please refer to the attached partner letters for further details of support and partnership.

The institute core team will also seek guidance from Educopia Institute, Center for Creative Leadership. In planning this proposal, ARSL representatives have attempted to engage this organization. To date, ARSL does not have confirmation, but plans to redouble efforts if awarded the grant. ARSL will establish this partnership to leverage and modify the Nexus Leading Across Boundaries: Layers of Leadership Across Libraries, Archives, and Museums.

Current and past ARSL board members and committee chairs along with identified members of ARSL will serve as mentors for the leadership participants throughout their time in the program. Rather than establishing one-to-one mentors, participants will be introduced to a team of subject experts in areas of rural and small library leadership. This structure will allow each participant the opportunity to build a team of people they can reach out to individually and at point-of-need depending on the nature of their current issue. By-in-large, a rural library director is also the HR department, payroll, marketing, programming, collections development departments and many other things. Developing a team of people with expertise in a wide variety of skills and experience will help the participants long after they complete the institute.

Leadership institute participants' progressive growth and development will be supported by ARSL mentors who will be available via individual online meetings and one-on-one coaching. Mentors will be identified in the first year of the program by the ARSL board and past board members.

Examples of subject areas for the ARSL mentorships include those with expertise in:

- developing policy and procedures for rural and/or small libraries
- supervising staff in rural and/or small libraries
- facilitating community initiatives
- managing budgets and reports
- acquiring grants and other alternative funding

- leveraging library statistics and data for effective library services

### Participants

In fall 2020, ARSL will launch an extensive recruitment campaign via their website, member email list, and conference. In addition, ARSL board members will be identifying the reaching out to specific individuals that would be strong candidates for this leadership institute. The advisory team members, many representing national organizations with wide reach, will also be involved in recruiting a diverse applicant pool from throughout the country. With these partners involved, ARSL will recruit widely to gain a strong pool of candidates from throughout the country and representing diverse populations.

The 30 participants chosen will be those already working as directors or branch managers or those seeking these positions. These individuals, regardless of area of the country, share the common responsibility for every aspect of managing and operation a modern library, from reporting to a board or local governing authority, overseeing budget and strategic initiatives, and other organizational leadership, as well as the day-to-day operations of the library including service, procurement, shelving, and programming. Applications will be accepted through an online submission form and will consist of several components:

1. An application form collecting general information about the applicants, such as their job position, length of time in that position and in other library jobs, the area of the country served, community demographics served by the library, demographic data of the applicant, past involvement with ARSL, including membership.
2. An essay addressing the applicant's interests in the institute, including their interest and involvement in ARSL, their goals in participating in the institute, including their professional development goals for the individual, their library, and the community they serve.
3. Two letters of recommendation, one written and submitted by a superior that affirms support for the time and travel required for participation in the institute.

Following an open application period, the selection committee, drawn from the advisory team and ARSL board, will determine participants for the institute beginning in 2021. The evaluation criteria for selection will be discussed and determined by the selection committee and applications will be considered using blind review. The selection committee will convene to discuss how they are applying the evaluation criteria in their deliberations before they complete the entire process. These procedures are designed to establish uniformity in the evaluation of each application, although an element of subjectivity may always remain.

Once selected, the 30 individuals will be notified and given a formal agreement to be signed by the individual and their organization that reiterates the benefits, time requirements, and responsibilities of participation. In designing this institute, the core instructors will consider the workload of the institute and coordinate incremental learning over an 18-month time period. The in-person and online sessions will include learner engagement and plans for application. Instructional focus and activities will give them skills and confidence to better lead their library, take on more leadership in their communities, and/or in the library profession.

## Leadership Institute

To establish the curriculum for this institute, co-leaders and core instructors Hixon and Morris will use the framework developed by Educopia Institute, Center for Creative Leadership's Nexus Leading Across Boundaries (LAB): Layers of Leadership Across Libraries, Archives, and Museums (<https://educopia.org/nexus-lab/>). This framework recognizes the importance of proficiencies in "leading self, leading others, leading the organization" which provides an initial outline for the 18-month program. Hixon and Morris will be leveraging existing materials and instructors to address some of these layers of leadership, including content and activities from the All In - Arkansas Leadership Institute, Research Institute for Public Libraries, and other established managerial leadership courses and workshops. In addition, working with an advisory team, Hixon and Morris will identify other key content and instructors for new content.

While the LAB framework has broad value, modifications to the content will take into consideration the unique issues and circumstances of those emerging leaders in rural and small libraries. For example, the layers of leadership distinguish "leading others, leading the department, leading multiple departments, and leading the organization" as separate layers. In a small library setting, these various roles are often accomplished by one person. To address this rural and small library situation, the LAB layers and their identified components will be consolidated in some areas to establish the areas of instruction. At the same time, the broader focus on how these layers of leadership can address important outcomes in the communities will be more targeted in the instructional content and activities because of the demand for rural library directors and managers to serve in community leadership roles. In addition, many of the directors and managers who will participate in the institute come to these positions without library experience or education. To address any disparities in library knowledge, experience, and commitment to professional standards and values, library examples and values and ethics will be key aspects of the institute.

The advisory team will meet online monthly during the fall 2020 in order to review proposed curriculum and instructors. The advisory team includes rural library directors who can speak to the specific needs of that demographic. In addition, several members of the advisory team have developed library leadership training and other professional development for librarians. They can help refine the curriculum plan and offer suggestions on instructors. After the advisor and member review, Hixon and Morris will conduct interviews and/or focus groups at the Association for Rural and Small Libraries conference in fall 2020 to gain further practitioner input.

The institute will launch in Spring 2021 with an online orientation designed to clarify logistics, review content and scheduling, and offer tips for success in the program. Participants will also have this opportunity to begin to build rapport prior to the in-person residential portion later in the spring. The cohort connection among participants will be an important aspect of this institute. Because participants will have diverse experiences and skills, this colleague engagement will be prioritized. For example, during the institute learning modules, experiential learning strategies will be integrated with various group activities, allowing participants to establish peer learning and support.

After the orientation, the 30 participants will attend a 2-day residential institute. This is the first in-person event of three and the only one not to be held at an ARSL Annual Conference. For this event, three sites are being considered: Denver, Boise, and Bozeman. The final decision will be made based on costs and availability of each venue and other factors determined by the core team.

In this initial in-person session, interactive workshops will focus on foundational leadership imperatives, such as understanding self, influencing others, and developing skills to make meaningful change both in the library and within the community. To empower every participant, they also will establish individual learning and performance goals. Participants will track their progress with these goals in a journal throughout the institute and may modify their plans based on new learning, mentor input, and leadership opportunities. This individual journal reflection will be a hallmark of the institute and offer participants opportunities to progress with focus, intention, and practical application to their library work.

The initial plan for the first year of content is outlined below, though it will be modified based on advisory team and ARSL member input. The working proposal is to begin the first in-person institute by defining leadership in libraries, including leadership theory, leadership styles and methods, and library values and ethics. The time together will allow for interpersonal instruction related to “leading self” strategies, such as understanding individual strengths and how to leverage them, identifying participants’ core values and how they inform their work, and gaining greater awareness of implicit biases they bring to their work that may require changes in practice. Additional content related to positive organizational development, “leading others” and “leading the organization” will be added in online and other in-person sessions. These practical workshops will include existing coursework, modified for application in a rural library setting, and may include techniques for giving and receiving feedback, coaching for performance improvement, reframing issues as opportunities, and leveraging data for organizational effectiveness.

Participants will engage bi-monthly in online learning sessions to infuse new concepts and build practical skills. These online events will use the “flipped classroom” approach in which participants initially watch a pre-recorded webinar hosted by Hixon and/or Morris and featuring subject experts in topics, such as organizational culture, community influence, etc. The participants will view this content at their convenience and consider applications in their own library and/or community. Participants then will join an online synchronous session having prepared specific questions for the subject experts. In this way, participants can be supported in applying the concepts to their current situations. In addition, the online recordings will be housed at the ARSL website for other ARSL members to access into the future.

In fall 2021, participants will undertake their second in-person learning intensive at the 2021 ARSL conference in Sparks, Nevada. One track of the conference proceedings will be experiential workshops on topics of “leading others” and “leading the organization” as well as other Nexus LAB curriculum with modifications for the rural library audience. This conference track, while required for leadership participants, will also be open to other ARSL members to engage in topics of leadership along with the institute fellows. In this way, ARSL seeks to

leverage the institute content and instructors to expand leadership potential to other members of the organization.

After the 2021 conference, additional bi-monthly online sessions will continue the learning experience for participants. As they move through their 18-month program, participants will be given autonomy to design and apply their leadership learning within their libraries and communities. They will also be encouraged to become more involved in ARSL and other library associations. Their culminating in-person experience will be at the fall 2022 ARSL conference. Participants will offer presentations and/or poster sessions for conference goers to learn from their leadership journey. This venue will allow these emerging leaders to share with the broader ARSL community what they have learned and how they have applied leadership skills. In addition, OCLC's WebJunction will spotlight top leadership presentations via their online webinar platform that reaches thousands of libraries in the country, including many rural and small librarians. State Library Agencies will also feature leadership participants via online and state-level workshops.

In late fall 2022, the leadership institute participants will attend a final culminating online event to celebrate and look ahead to their future as library leaders. By the end of the program, each participant will identify one area of ARSL in which they would like to get involved and contribute at least one year of the subsequent three year period. Options for ARSL involvement include serving on the membership or conference committee, being involved in online ARSL content development, coordinating partnerships, or running for and serving on the governing board. ARSL will track the professional activity of leadership institute participants, including their contributions to ARSL committees, conferences, and other offerings during the three year period.

### Institute Evaluation

Parallel to the development of the institute curriculum for the institute, in Fall 2020, Hixon and Morris will work with a subcommittee of the advisory team to plan the institute's evaluation. The advisory team includes representation from the University of Washington, Library Research Service, and COSLA who have expertise in program evaluation. These individuals will work with Hixon and Morris initially to identify the external evaluation process, including selection of a researcher. Throughout the three-year institute, these advisors will continue to engage in support for the evaluation and interim and final reports.

In tandem with curriculum development, an external evaluation firm will develop an evaluation plan in order to measure participant learning and performance change. Success of the project will be evaluated by a number of metrics including: number of applications received; number of participants accepted, and completion rates. In addition, the evaluation will include perceived quality and variety of online and in-person professional development opportunities provided to rural/small library leaders; degree to which participants develop deeper understanding of leadership across the layers required for their job and the profession, and self-reporting on the changes to individual performance, organizational effectiveness, and community development. Also, to address the issue of high turnover rates among rural library leaders without support or

training, the evaluators will track the number of participants who remained or advanced in the library field as a result of participation.

To determine these outputs and outcomes, participants will take pre and post assessment with residential workshops and complete online surveys after online learning sessions. These frequent workshop evaluations will also allow instructors to gain feedback and make improvements to the offerings over the course of the multi-year institute. In addition, participants will be interviewed at the end of their institute in order to determine the application of their learning in their performance, the perceived effectiveness of their libraries, and/or results within their communities as a result of their participation in the institute. A final report on the institute will include details of the institute's offerings and results as well as recommendations for future leadership institutes for rural and small libraries. Results from this pilot leadership institute will also be shared via partners, including the Continuing Education Coordinators at State Library Agencies throughout the country. Data collected from the evaluations will inform changes to the program design and will provide evidence regarding the program successes and shortcomings.

### **Diversity Plan**

*Outstanding in Their Field* will reach diverse participants while adding curriculum on implicit bias, equity, and inclusion. Using strategic partners, including the American Library Association's Public Library Association, the Chief Officers of State Library Agencies (COSLA), and University of Washington, ARSL will ensure application and participation from each geographic location, and recruit from a broad spectrum of ethnicities, orientations, and political views that comprise the rich tapestry of rural America. In addition, the instructor pool will include a diverse group of experts, including those who can uniquely bring meaning and relevance to topics of equity, diversity, and inclusion. For example, initially participants will identify implicit biases during "leading self" and gain understanding of the warning signs of hiring and supervisory biases in the topics related to "leading others." In fact, EDI content will be integrated throughout the 18-month institute to emphasize this professional priority.

### **National Impact**

ARSL has a national reach with members in every state. In addition, 80% of public library systems are in rural and small communities throughout America. The "*Outstanding*" grant leverages ARSL's reach to offer three paths to national impact with the 30 participants. The initial path is to select participants from throughout the country to lead change in their libraries and communities while being in a cohort with others throughout the country. The second path is the national ARSL Annual Conferences and ARSL membership participation. Participants will be given opportunities to take to the stage by presenting at the national conference, to get involved in committees, and engage with members via the often-used email list. The third national impact is longer range. In subsequent years, as participants take on leadership positions within ARSL, they will step up to broader leadership and influence. They will bring the voice of rural and small libraries to the table on national issues, with national partners, and at national venues.



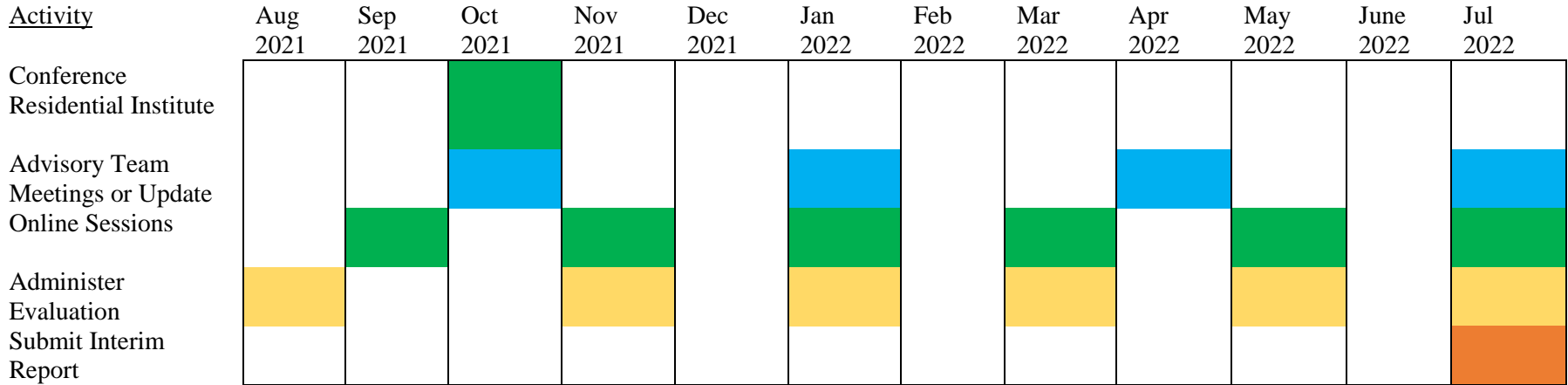
In addition to the 30 participants, the institute will be designed so that content can be shared with other rural and small library staff. First, the content from online sessions with leadership experts will be recorded and made available to a broader audience via the ARSL online portal. This platform will allow others to gain valuable understanding and tools to develop their own leadership capacity. Second, those attending the ARSL conferences will be able to gain from the institute content, including participating in the leadership track at the 2021 conference and the 2022 presentations by leadership participants. Finally, the national partners, COSLA, PLA, and OCLC/WebJunction, will provide platforms for participants to share their leadership abilities and contributions with others throughout the field.



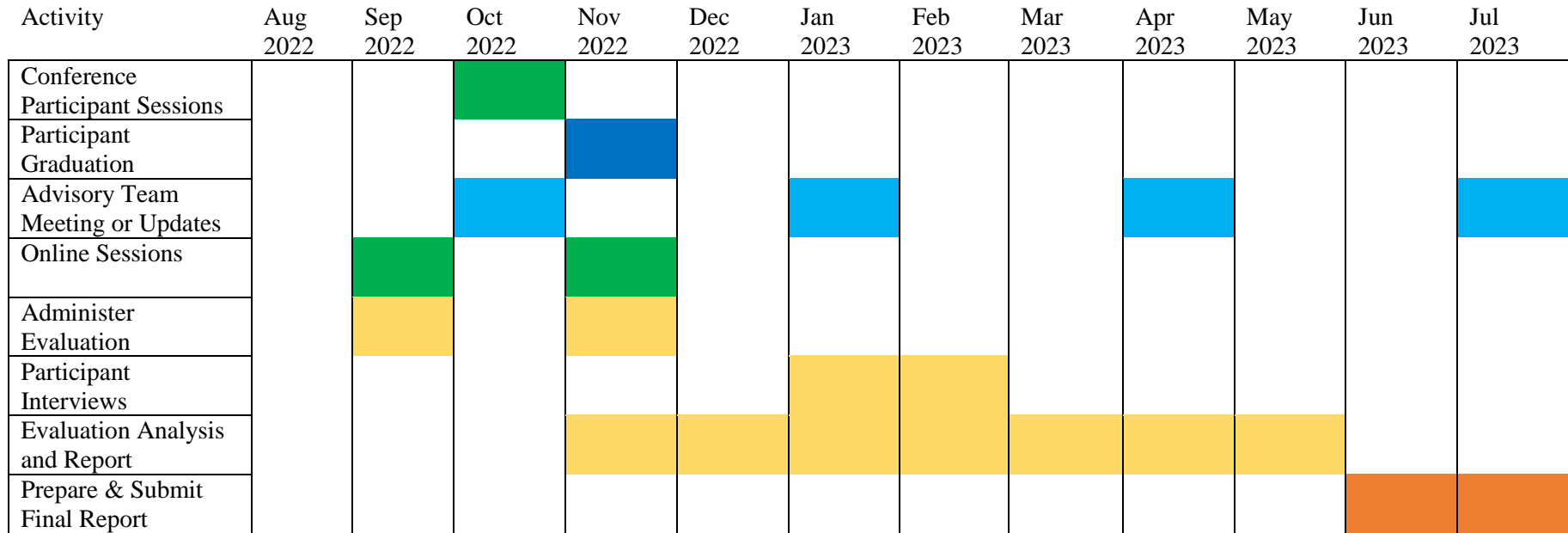
## Outstanding in Their Field: Leadership Institute for Rural and Small Libraries

### Schedule of Completion

#### Year 2



#### Year 3





## DIGITAL PRODUCT FORM

### INTRODUCTION

The Institute of Museum and Library Services (IMLS) is committed to expanding public access to digital products that are created using federal funds. This includes (1) digitized and born-digital content, resources, or assets; (2) software; and (3) research data (see below for more specific examples). Excluded are preliminary analyses, drafts of papers, plans for future research, peer-review assessments, and communications with colleagues.

The digital products you create with IMLS funding require effective stewardship to protect and enhance their value, and they should be freely and readily available for use and reuse by libraries, archives, museums, and the public. 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

If you propose to create digital products in the course of your IMLS-funded project, you must first provide answers to the questions in **SECTION I: INTELLECTUAL PROPERTY RIGHTS AND PERMISSIONS**. Then consider which of the following types of digital products you will create in your project, and complete each section of the form that is applicable.

#### **SECTION II: DIGITAL CONTENT, RESOURCES, OR ASSETS**

Complete this section if your project will create digital content, resources, or assets. These include both digitized and born-digital products created by individuals, project teams, or through community gatherings during your project. Examples include, but are not limited to, still images, audio files, moving images, microfilm, object inventories, object catalogs, artworks, books, posters, curricula, field books, maps, notebooks, scientific labels, metadata schema, charts, tables, drawings, workflows, and teacher toolkits. Your project may involve making these materials available through public or access-controlled websites, kiosks, or live or recorded programs.

#### **SECTION III: SOFTWARE**

Complete this section if your project will create software, including any source code, algorithms, applications, and digital tools plus the accompanying documentation created by you during your project.

#### **SECTION IV: RESEARCH DATA**

Complete this section if your project will create research data, including recorded factual information and supporting documentation, commonly accepted as relevant to validating research findings and to supporting scholarly publications.

## SECTION I: INTELLECTUAL PROPERTY RIGHTS AND PERMISSIONS

**A.1** We expect applicants seeking federal funds for developing or creating digital products to release these files under open-source licenses to maximize access and promote reuse. What will be the intellectual property status of the digital products (i.e., digital content, resources, or assets; software; research data) you intend to create? What ownership rights will your organization assert over the files you intend to create, and what conditions will you impose on their access and use? Who will hold the copyright(s)? Explain and justify your licensing selections. Identify and explain the license under which you will release the files (e.g., a non-restrictive license such as BSD, GNU, MIT, Creative Commons licenses; RightsStatements.org statements). 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.

**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.

**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.

## **SECTION II: 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 the format(s) you will use.

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

**A.3** List all the digital file formats (e.g., XML, TIFF, MPEG, OBJ, DOC, PDF) you plan to use. If digitizing content, describe the quality standards (e.g., resolution, sampling rate, pixel dimensions) you will use for the files you will create.

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

**B.1** Describe your quality control plan. How will you monitor and evaluate your workflow and products?

**B.2** Describe your plan for preserving and maintaining digital assets during and after the award period. Your plan should 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).

## **Metadata**

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

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

**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).

### **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, delivery enabled by IIIF specifications).

**D.2.** Provide the name(s) and URL(s) (Universal Resource Locator), DOI (Digital Object Identifier), or other persistent identifier for any examples of previous digital content, resources, or assets your organization has created.



## **SECTION III: SOFTWARE**

### **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.

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

### **Technical Information**

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

**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.

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

**B.5** Provide the name(s), URL(s), and/or code repository locations for examples of any previous software your organization has created.

## Access and Use

**C.1** Describe how you will make the software and source code available to the public and/or its intended users.

**C.2** Identify where you will deposit the source code for the software you intend to develop:

Name of publicly accessible source code repository:

URL:

## SECTION IV: RESEARCH DATA

As part of the federal government's commitment to increase access to federally funded research data, Section IV represents the Data Management Plan (DMP) for research proposals and should reflect data management, dissemination, and preservation best practices in the applicant's area of research appropriate to the data that the project will generate.

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

**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?

**A.3** Will you collect any sensitive information? This may include personally identifiable information (PII), confidential information (e.g., trade secrets), or proprietary information. If so, detail the specific steps you will take to protect the information while you prepare it for public release (e.g., anonymizing individual identifiers, data aggregation). If the data will not be released publicly, explain why the data cannot be shared due to the protection of privacy, confidentiality, security, intellectual property, and other rights or requirements.

**A.4** What technical (hardware and/or software) requirements or dependencies would be necessary for understanding retrieving, displaying, processing, or otherwise reusing the data?

**A.5** What documentation (e.g., consent agreements, data documentation, codebooks, metadata, and analytical and procedural information) will you capture or create along with the data? Where will the documentation be stored and in what format(s)? How will you permanently associate and manage the documentation with the data it describes to enable future reuse?

**A.6** What is your plan for managing, disseminating, and preserving data after the completion of the award-funded project?

**A.7** Identify where you will deposit the data:

Name of repository:

URL:

**A.8** When and how frequently will you review this data management plan? How will the implementation be monitored?