

**1. Statement of Need:** The Fort Sill Chiricahua/Warm Springs Apache Cultural Program Office and Library is located in our tribal headquarter offices, just north of Apache, Oklahoma in rural Caddo County, southwest Oklahoma. The Fort Sill Chiricahua/Warm Springs Apache tribe (hence, Fort Sill Apache, FSA, or “the Tribe”) has 771 enrolled tribal members. Regional Kiowa-Comanche-Apache (KCA), Wichita-Caddo-Delaware (WCD), and Cheyenne and Arapaho (C&A) reservations disappeared after 19<sup>th</sup> century Dawes Act land seizures, so our community originally lived on small land allotments sprinkled across southwest Oklahoma. We also maintain a 30-acre reservation in our ancestral homelands, near Deming, New Mexico. Tribal members also live throughout the nation. So, the Fort Sill Apache Cultural Program Office and Library serves a decentralized community and, particularly, those members living within the Oklahoma tribal jurisdictional area including nearby Caddo, Comanche, and Grady counties. This proposal focuses solely on southwest Oklahoma services.

Fort Sill Apaches were originally southern Athabaskan people that lived in and shared culture with the Apache, Navajo, and other Native southwest people. US General Nelson Miles seized our ancestors as prisoners of war in 1886 to compel Geronimo’s subsequent capture, however. They were imprisoned in Pensacola and Saint Augustine, Florida; Mount Vernon Barracks, Alabama; and finally, at the Fort Sill Military Reservation in southwest Oklahoma for 28 years. The Apache prisoners of war separated in 1913 when the majority population relocated to the Mescalero reservation, New Mexico. The minority population of 80 predominantly Chihene/Warm Springs Apaches remained imprisoned until 1914, when we were provided allotments to grow families and community in southwest Oklahoma.

Today known as the Fort Sill Apaches, we are a small, southwest Apache tribe exiled in a predominantly Plains (KCA and C&A) and Eastern Woodlands (WCD) cultural region. Fluency in our Chihene/Chokonon Apache dialect ended in the 1990s with the passing of imprisonment-era survivors. There are numerous 20<sup>th</sup> century histories and anthropological writings about the Apache prisoners of war, with much focus on “Chiricahua” culture or the widely-known former prisoner, Geronimo. But, we are not all “Chiricahua,” or Geronimo’s “people.” The important thing about our tribal library and archival collection is: Fort Sill Apache audio recordings, photographs, artworks, and documents tell an important story history books have not addressed. As a small community, though, we preserve our significant cultural heritage for our tribe first, before strategically opening it to broader regional and national access, awareness, and pride.

Tribal historian Michael Darrow developed early Cultural Programs office infrastructure in 1986, established formal Business Committee approval in 2006, and continues to direct growth strategy. Currently administrated by Cultural Coordinator Brent Buckner, the Cultural Programs office manages a reading library and cultural archive (including community-based recorded sound, photographs, documents, and artworks). The tribal library and cultural archives are available to the community Monday through Friday, from 9 a.m. to 4:30 p.m. It serves regional tribal members, generally, and headquarter office staff, secondary-to-college-age students, and retirement-age elders visiting daily nutrition center lunches, specifically.

Cultural Programs needs met under our proposed 2-year IMLS Enhancement Grant (2020-2022) include 1) sustainability of general long-term digital preservation infrastructure and processes, 2) improvement of recorded sound access through advancement of database documentation, and 3) restoration of prioritized language-based digital audio for future development into community education materials. This proposed work shores up internal Cultural Programs *digital services*. Cultural Programs sustainability and organization nonetheless enables Apache language revitalization work; review and analysis of our mighty historical

heritage; and tribal community education about our distinct spiritual and musical-artistic heritage, as well.

These needs are assessed conclusions of 20-years research work between Tribal Historian Michael Darrow, the Fort Sill Apache community, and digital collection consultant T. Christopher Aplin. Since 2016, Darrow, Tribal Chair Lori Gooday Ware, and Aplin digitized historic analog instantaneous discs, reel-to-reels, and cassettes through GRAMMY Foundation/Museum and Council for Library Information Resources (CLIR) Recordings at Risk support. IMLS then supported work to catalogue prioritized language-based Haozous/Darrow and Lew Kawaykla reel-to-reel recordings; to establish a strategic plan to secure sustainable, long-term digital collection preservation (via existing FSA infrastructure and institutional relationships with the University of Oklahoma and Library of Congress); and to enable community-based strategy sessions to determine appropriate storage, use of, and access to its recorded sound heritage and promote community interest in cultural preservation work.

In the areas of digitization, documentation and strategy, our team is supported by a respected, formidable, even loved team of advisors, including: Dr. Anthony Seeger, UCLA Ethnomusicology/Smithsonian-Folkways Records (Emeritus); John Vallier, Head of Media/Ethnomusicology Curator, University of Washington; Stephen Davison, Head of Digital Library Development, California Institute of Technology; Dr. Nora Yeh, Archivist, American Folklife Center, Library of Congress (Retired); Aaron Bittel, Director of World Music Archives and Music Librarian, Wesleyan University; Dr. Charlotte Heth, UCLA Ethnomusicology/National Museum of the American Indian (Retired); Dr. Shannon Speed, Director, and friends at the UCLA American Indian Studies Center; and Dr. Amanda Minks, Honors College, University of Oklahoma. This team of archivist-scholar advisors are valuable to our success.

Fort Sill Apache recorded sound heritage is important because it documents the language and history of the Apache prisoners of war seized with Geronimo in 1886. It also contains oral histories of former Apache prisoners of war. A notable example is Sam Haozous, who recorded his oral life history near the end of his life and describes memories stretching from his ancestral Chihene/Warm Springs home (1870-1878); his life in the Mexican Sierras with Nednai Apaches between 1882 and 1883; his subsequent 28 years as prisoner of war (1886-1914); and his post-imprisonment struggle to return to his Chihene homeland in New Mexico (circa 1909-1957). They also contain oral histories by twentieth century leaders Benedict Jozhe, Jr. and Moses Loco; as well as Dan Nicholas, a tribal liaison important to anthropologist Morris Opler's definitive Apache culture research. Recordings also capture oral history sessions with tribal matriarch Blossom Haozous, Robert Gooday, and other elders, many of which document a little-known Chihene Apache dialect that will benefit language classes held at the FSA headquarters.

**2. Project Design:** We propose a 2-year digital services project to achieve three (3) important goals: 1) Consolidate all FSA digital heritage audio, photo, and document collections under a sustainable, long-term preservation plan and consistent workflow, 2) Complete cataloguing of digitized audio collections, and 3) Prioritize and restore select language-based digital audio files for development as language revitalization material. Achieving these goals aids an eligible Native American library to establish collections under a long-term preservation plan that protects sovereignty over digital cultural heritage; improves searchability and access to recorded sound language, oral history, and musical heritage; and, via prioritized audio file restoration, enables creation of educational product that will assist the FSA tribe to revise and update language

revitalization materials for language class attendees. It will also assist speakers/scholars, generally, by expanding linguistic knowledge of a distinctive Chihene/Warm Springs dialect.

Our FSA Cultural Programs team will achieve these goals through four (4) activities, or objectives. **First**, we will ensure sustainable, long-term preservation of digital cultural heritage through consolidation of all FSA digital cultural heritage files (including photographic, audio, and documents) into a single, central computer workstation and creation of redundant duplicate backup files. Cultural Programs possesses digital duplicates of all digitized CLIR Recordings at Risk files, but they are sustained only via redundant storage on 2 TB external hard drives—an archival “best practice,” but basic and temporary. In addition, audio collections are stored separately from digital photographic, document, and material collections (estimated 1.25TB+).

Consultant Aplin will organize, consolidate, and deposit within Cultural Programs collections all audio files from the CLIR Recordings at Risk project, previous FSA digitization efforts, as well as interview and music recordings from his own personal ethnographic collection. Aplin also has a significant collection of document data for tandem consolidation due to 20-years archival research in national and regional archives (estimate 1.25TB+). Our new Cultural Coordinator, Brent Buckner, proposed to consolidate a decade+ of photographic files under our 2020 IMLS Basic Grant application—this includes review of former Cultural Coordinators’ computers and hard drives to identify and compile in one place all relevant files; to acquire relevant photographic equipment (e.g. scanner, printer, and Adobe photoshop); and to take training relevant to photographic collection management and standards. One key goal for the Buckner/Aplin team, here, is to locate earlier computer files of the *Ndé Bizhaa Nahizaa* (Apache Language, Our Language) packet so it can be revised. Buckner and Aplin will consolidate all Fort Sill Apache digital cultural heritage in the new Apple iMac command center (funded via IMLS 2018-2020) housed in the Cultural Programs office.

Our team will then duplicate all iMac command center files to three separate 5TB hard drives (funded under 2020 Basic) and distribute them between Cultural Programs, FSA Administration (likely Lori Gooday Ware or Jeannette Mann), and Tribal Historian Michael Darrow in southwest Oklahoma. Consultant Aplin will maintain an external hard drive copy (requested for funding here, under 2020 Enhancement) for geographic separation at his Pasadena, California residence. In addition, Aplin will deposit a duplicate on OURRstore, an LTO tape-based digital intermediate-to-long-term “cold archive” housed at the University of Oklahoma (funded via the Oklahoma Historical Society, 2020). Buckner and Aplin will communicate with FSA tech staff Tom Ward and Dylan Hooker-Kyle to solidify details for local back-up of Cultural Programs digital collections, possibly via a refurbished FSA Eos Server.

**Second**, Aplin’s completed audio collection documentation (funded via IMLS Enhancement 2020-2022) within a searchable FileMaker database (via IMLS 2018-2020) will enable access to digital cultural heritage. From 2018-2020, our team documented into Excel spreadsheets the Haozous/Darrow collection of instantaneous discs and reels-to-reels (among the oldest Apache language and song items in the collection), the Lew Kawaykla collection of reel-to-reels (containing the second oldest, most valuable language and oral history-based recordings), and the Marie-Louise Liebe-Harkort and Ralph Cooley collection of cassettes (the most language-rich collection), comprising perhaps ¼ to 1/3 of total recorded sound content. These spreadsheets will be migrated into a File Maker database by September 30, 2020.

Between 2020-2022, Aplin will continue second-tier prioritized language, oral history, and music digital audio file documentation, with increasing focus on digitized cassette files. There, the Imach/Cleghorn collection holds promise of unknown and/or underutilized

recordings; it likewise allows opportunity to verify recorded sound documentation originating from Marie-Louise Liebe-Harkort's (ML-LH) linguistic work with Blossom Haozous and on Apache song traditions. ML-LH recordings in the Imach/Cleghorn collection will be cross-checked with parallel recordings in the Darrow/Haozous collection to analyze ML-LH's late 70s ethnographic project; her remaining linguistic field notes; and song lyrics, origins, and genres for a proposed FSA song book. Another area of interest is Lori Gooday Ware's collection of intertribal Christian hymns sung by Fort Sill Apache and other tribal performers, which are distinctive documents of southwest Oklahoma intertribal social life and indigenous language dating from the late-19<sup>th</sup>/early-20<sup>th</sup> century reservation-era.

Under this collection-based work, Aplin will continue on-going discussion with University of Oklahoma (Heaton/Wojcik; Cobb-Greetham and Minks) and Library of Congress American Folklife Center (Grey, Harvey, Revak) contacts. These discussions will focus on terms and conditions for possible future deposit of a finding aid and broader public access (OU and LoC), as well as possible deposit of original master recordings (LoC AFC/National Audio-Visual Conservation Center) for long-term preservation purposes.

**Third**, FSA Cultural Program staff will prioritize audio recordings for educational development during 1-2 annual on-site FSA seminars (possibly teleseminars, depending on pan-global travel advisories) with consultant Aplin. 2018-2020 IMLS Enhancement helped our team conduct a general digital file review and prioritize contents based on: 1) linguistic, 2) oral history, and 3) musical content. As a consequence, our team focus this phase is to compile, review, and analyze all language-based digital audio for development as educational product for the Fort Sill Apache community. Our team will review the language-based contents of *Ndé Bizhaa Nahizaa*. Aplin will cross-check *Ndé Bizhaa* contents against available digital audio to identify corresponding audio segments of language and then consult with Buckner and Darrow to strategize digital restoration of the most-relevant, prioritized language-based recordings within the collection. This work helps advance community-based FSA efforts toward language revitalization (a specified IMLS project category). In addition, it advantages our team as we work toward a National Science Foundation Dynamic Language Infrastructure (NSF-DLI; formerly NSF-DEL) with linguist Willem deReuse to extend the scientific range and detail of Apachean language knowledge.

Music, itself, is an important vehicle for language. Consultant Aplin will therefore widen focus on musical aspects of FSA digital audio, particularly in terms of how they relate to Liebe-Harkort's linguistic documentation. In addition, he will also begin compilation efforts and advisement regarding production of a song book.

A revised language packet and a song book are valuable goals. Aplin will therefore focus prioritization work, collection analysis, and Cultural Programs advisement toward these goals. Cultural Programs' photographic collections provide perfect opportunity for visual images to combine with language and music to create dynamic publications for the FSA community. Therefore, Cultural Coordinator Buckner will advise Aplin on photographic collections work; Aplin will advise and coordinate efforts between linguistic, music, and photographic domains.

**Fourth** and finally, consultant Aplin will oversee language-based digital audio file restoration by End Point Audio, a firm run by Nicholas Bergh, in Burbank, California. Having worked with two vendors under 2018-2020 IMLS Enhancement—AudiobyDelux and End Point—Aplin determined work with the latter best benefits FSA needs. Bergh has digitized and restored a high volume of analog data (from the original Hindenburg disc recordings to Buckminster Fuller's wire recordings for Stanford University). He is an ethnomusicologist

attuned to the ethics, privacy concerns, and discretion necessary working with Native communities. He will advise our FSA project team on engineering a cassette digitization workstation (the technological components of which were funded under 2018-2020 IMLS Enhancement) and workflow resulting in maximum audio fidelity appropriate for the professional integrity of the FSA Cultural Programs and administrative team. This works for Pasadena-resident Aplin, too, as convenient Burbank proximity enables greater personal interaction regarding restoration details (e.g. availability for onsite consultation regarding technical aspects of audio quality; as opposed to Hollywood industry mass-output work with behemoth AudiobyDelux, or shipping materials to another out-of-state vendor and limiting communications to email). Bergh/EndPoint will boost audio volume and clean up tape and ambient room noise impeding linguistic audibility to clarify the enunciations of elder Apache speakers. Community-generated word-lists are common in FSA digital audio collections. These will be restored, edited into single-statement Apache language utterances (“gah”), paired with their English translation (“rabbit”) recorded by contemporary tribal members, and distributed to language class participants via digital MP3 and/or CD.

The completion of tasks help Cultural Programs advance basic objectives; but their sum achieves significant goals. For example, consolidation of digitized audio alongside other spheres of digital cultural heritage (including photographs, documents, and material items), the sustainable redundant backup duplication of collections contents, and its oversight by multiple parties including the Cultural Coordinator, FSA Business Committee and Administration, as well as tech support staff are the achievement of a weighty, intermediate-range goal: The sustainable, long-term preservation of Fort Sill Apache digital cultural heritage. Properly managed, this FSA support network will transcend and outlast Cultural Programs personnel changes in the future.

An additional outcome of this combined work, the FSA Cultural Programs team and relevant Business Committee overseers will review collection contents through a process of advice-and-consent with consultant Aplin that best answers FSA tribal community needs. Together, we will identify and catalogue audio collections content appropriate for public access (general, significant oral histories; possibly social song), private access (sacred song and personal family histories), and items appropriate for future Educational Programming development within the community (language). Upon completion of documentation and review, another logical, intermediate-range aim (likely just beyond the bounds of this proposed project) is to draw up a curated finding aid that documents all publicly accessible general historical, linguistic, and musical recordings within Fort Sill Apache collections. Throughout, Aplin has advanced discussions with Raina Heaton and Nicholas Wojcik at the University of Oklahoma Sam Noble Museum Native American Languages Program; Lina Ortega (OU Western History); Amanda Minks (OU Honors College) and Amanda Cobb-Greetham (OU Native Nations Center); as well as with Judith Grey, Todd Harvey, Guha Shankar, and Kelly Revak of the Library of Congress American Folklife Center. FSA Cultural Programs staff is therefore establishing networks through which a finding aid might be deposited—after full, thorough review and deliberation—via trusted, informed relationships with highly respected partner institutions.

Supportive institutional agencies enabled our 4-years of inventory, digitizing, and building activity surrounding Fort Sill Apache recorded sound collections. In the process, our team overcame obstacles: The vendor that digitized our most valuable disc and reel items, NEDCC, was shut-down and temporarily imperiled by the 2018 Merrimack Valley gas explosion; our FSA team earned top-notch, long-term preservation support from Digital Preservation Network (DPN) in February 2018—9 months before that premier digital dark

archive permanently shuttered in December; not to forget: 2020 and Coronavirus. The first issue was minor delay; the second sent ripples throughout our 2018-2020 project as we recalibrated our long-term preservation plan;<sup>1</sup> 2020s Covid-19 regrettably halted our shared work in close proximity. But, challenges have in no way slowed our momentum, progress, or ambition. Our team is proud to have reported on our preservation activities to the community in our *Fort Sill Apache News* (August 2019) newsletter. Aplin tells us we have built Cultural Programs Office and Library infrastructure that can be a model to other tribes. We hope IMLS can continue helping us build with the integrity our tribe is known for.

**3. Impact:** Under this project, the FSA tribe accomplishes an impactful goal: Full Cultural Programs and administrative team knowledge of and sovereign control over sustainable digital heritage collections (including recorded sound, photos, and documents). “Knowledge of” Recorded sound collection content, specifically, is important to determine *use* of recordings as we move forward (for example, to identify material for educational material use and define public access protocols for research use). “Sovereign control over” access to and ownership of recorded sound heritage is important because tribal rights to privacy: Oral histories and songs document family names and histories. Because non-tribal members have historically violated tribal sovereignty via identity theft in the past, our community deserves right of control. Sovereign control over recorded heritage is also important because—while recordings are profoundly *valuable* assets—songs and stories are in *no way* protected by conventional, term-limited legal copyright protections.

Therefore, the *key* to project success is to empower Cultural Programs with long-term preservation sustainability of digital collections in-house, within the Fort Sill Apache Tribe. Under this project, our goal is to enact sustainable back-up and migration processes capable of transitioning and enduring across Cultural Programs personnel changes. This is ensured by establishment of the iMac command center and extending data management efforts to include the assistance of FSA tech support by Tom Ward and Dylan Hooker-Kyle. Intermediate-term cold archival duplication on LTO tape-based OURRstore<sup>2</sup> will be an emergency back-up in event of catastrophic loss. Enactment of a fully sustainable, in-house Fort Sill Apache preservation plan is our ultimate goal, because achieving that enables our most desired outcome: Tribal sovereign control over digital cultural heritage.

Sovereign control is based on subsidiary accomplishments. One important outcome for this project and our tribe is completing full, advice-and-consent deliberation about audio heritage contents. For us, that means disclosure of collection contents will help us prioritize recordings toward community development (language and/or song books; calendars; recording compilations) and public access via institutional relationships with the University of Oklahoma and/or Library of Congress American Folklife Center. A humbler secondary outcome is public searchability and access for FSA-member use—again enabled via the iMac command center and the near-complete documentation of digital audio heritage.

In addition, our community will learn digitization skills under the instruction of Aplin and End Point Audio’s Nicholas Bergh. During Aplin’s on-site visits, Cultural Coordinator Brent

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<sup>1</sup> We fell back to rudimentary hard drive back-up, and subsequently explored other Cloud [from Chronopolis, to Glacier and Box] and institutional relationship options.

<sup>2</sup> OURRstore is currently guaranteed under an NSF grant for 8-years of operation, subject to renewal. LTO-tape, the widely available foundation of this digital cold archive, is capable of storing retrievable data into the long-term, or up-to 30-years.

Buckner and our support team of Wilson Ware, Jr. and Bryan Jones will train on processes and techniques of analog cassette digitization. Our capability grows by training multiple parties: They become community education ambassadors who communicate the importance of analog digitization to tribe members; digitize analog cassette media to archival standards with integrity; and identify and direct instantaneous disc and reel media to the Cultural Coordinator, who will outsource older formats to specialized vendors.

With such promise for language and history recovery, are there risks? For Native tribes: Yes. And, full knowledge of and due deliberation about the value and proper care for digital collections is essential during this digital services phase. Improper circulation of collections can result in loss of “culture” via appropriation of songs and stories for commercial purposes. Unauthorized access to family details can be manipulated to support all-too-common illegitimate claims of tribal membership and basic identity theft. The long-term commitment of our FSA Cultural Programs team through this conservative period of “black-out” advice-and-consent deliberation is intended to minimize risks inherent in wider, public research. That is: Conservative, detailed commitment to our project design is intended to make materials available to community, first, and then widen after deliberation, as appropriate, to the intertribal communities of southwest Oklahoma and regional and national researchers through an expanding, strategically expanding method. Through the deliberation of our project design, FSAs set a conscientious standard for Native collections documentation, review, and public access.

**4. Communications Plan:** Tribal Historian Darrow and consultant Aplin have 20-years of established collaborative work, completed both in-person and via distance communication. In addition, our Cultural Program team established reliable communications during the 2016-2020 audio digitization grant phase. Given these experiences, previously established external hard drive shipment protocols will continue to serve our distant collaboration. And under unprecedented pan-global pandemic conditions, the recent creation of an internal FSA 500GB, FedRAMP-secure shared Cloud work space will fully empower shared digital collaboration between Cultural Coordinator Buckner and Aplin. Aplin performs documentation, vendor and institutional communications, and formal project reporting from his home in Pasadena, California. Cultural Coordinator Buckner and FSA administration manage community-based project oversight, deliberation, and communications from Apache, Oklahoma. Aplin submits a report detailing advancement of work to Cultural Programs and the FSA administrative team on a monthly basis. Quarterly, Aplin submits detailed reports on specific task-areas (e.g. digital dark archives, restoration processes and standards, updates on institutional communications). Telecommunications are frequent between Cultural Coordinator, Tribal Historian, and advisor Aplin and we work well in terms of advancing communications regarding report submission, budget disbursement, and seminar visit scheduling.

Under IMLS Enhancement 2018-2020, Aplin visited for 3 in-office seminars, each lasting 3-days duration, with the fourth day dedicated to University of Oklahoma meetings. Our team hopes to accomplish at least 1-2 in-office visits/year under IMLS Enhancement 2020-2022. We work very well together and enjoy tasks tackled together, in-person. But, we revised travel ambitions downward, regrettably, due to the current Covid-19 outlook. We recognize that, depending on future conditions, we may substitute in-person seminar travel with teleconferencing. We remain hopeful for now; cross that bridge when we get there.

Our team plans future *Fort Sill Apache News* articles to keep tribe up-to-date on team activities (especially in terms of restoration and the use of recorded sound to support language

classes in the future) and engaged with the value of their Cultural Programs Office and Library. It will be up to Cultural Coordinator Buckner and education ambassadors Bryan Jones and Wilson Ware, Jr. to raise awareness within their community about the value and processes of analog recordings digitization and cultural preservation work, generally.

Community-based recording of language, history, and music is widespread in Native America—it is the continuation of the oral tradition, abetted by technology. This is true in southwest Oklahoma. And, Aplin sees significant national reflections of that practice. But, Mike Casey of the University of Indiana Media Digitization and Preservation Initiative, the UN, and the Library of Congress state that we have 15 years to migrate a tremendous volume of obsolete analog recordings before media degradation and technological obsolescence makes digitization prohibitively expensive. “Prohibitively expensive” might be executed by well-funded institutions like the UN and LoC. But, what does it mean for Native communities?

Fort Sill Apache digitization efforts provide a model of vision, commitment, and professionalism others should follow. Under 2018-2020 IMLS Enhancement, Aplin spread word of our success to archivists and scholars: to Amanda Cobb-Greetham, director of the new Native Nations Center at the University of Oklahoma, to OU ethnomusicologist and supporter Amanda Minks, Sam Noble Native Languages Program staff Dan Swan, Raina Heaton, and Nicholas Wojcik, and to OURRstore director Henry Neeman; to Shannon Speed, director of the UCLA American Indian Studies Center, AISC publications editor Pamela Grieman, and Joy Holland, AISC librarian; to University of Arizona Music Department director and ethnomusicologist Janet Sturman, UA ethno-archivist Jennifer Post, Tohono O’odham linguist Ofelia Zepeda, professor and former UA Dean of Libraries Carla Stoffle; as well as long-time colleague, advisor, and supporter John Vallier, Head of Media, University of Washington. Fort Sill Apache efforts made an impression on each. And, each university and its Native student populations served should be informed and grow from our project success. Perhaps they will soon be informed via an academic journal article in the American Indian Culture and Research Journal, the American Indian Quarterly, the International Association of Sound Archives Journal, or the Association for Recorded Sound Collections Journal? For now, there is much work to do.

**5. Sustainability:** This digital services project is about FSA digital collections sustainability. Through iMac command center consolidation of digital audio, photographic, and document files, we will ensure sustainable, long-term preservation of all FSA digital cultural heritage data. We then create four (4) redundant duplicate 5TB hard drives for distribution (including 3 southwest Oklahoma hard drives held between Cultural Programs, Administration, and Tribal Historian and 1 southern California hard drive, with Aplin, for geographic separation). Our team will consult with FSA tech support Ward and Hooker-Kyle to evaluate additional steps for consistent local back-up via a dedicated server and/or rotated periodic file back-up. An additional copy of digital collections will be stored on OURRstore as emergency back-up in event of catastrophic loss. Cultural Coordinator Brent Buckner will be trained on best practices for preservation sustainability. This training process establishes Cultural Programs leadership, with the Cultural Coordinator acting as central steward of digital cultural heritage collections. This formal strategy sets FSA processes for sustaining collections, regardless of personnel turnover. Our team will in addition continue discussion with the University of Oklahoma and Library of Congress American Folklife Center to negotiate options for research access, as well as digital and original master recordings long-term preservation storage.

**Year 1 (September 1, 2020-August 31, 2021)**

Key Project Staff	Task	2020		2021									
		September	October	November	December	January	February	March	April	May	June	July	August
Aplin, Chris	Audio File Locate, Process, and Consolidate for Long-Term Preservation	Full-Time			Concentrated								
	Data Cataloging/Audio Processing	Full-Time			Concentrated								
	Prioritize and Execute EndPoint Audio Restoration and Processing	Full-Time			Concentrated								
	Manage Music Consultant Seminars/Teleconferences	Full-Time			Concentrated								
Buckner, Brent	Draw-Up FSA Reports and IMLS Reports	Full-Time			Concentrated								
	Collection Processor Oversight	Full-Time			Concentrated								
	Manage Budget Disbursement	Full-Time			Concentrated								
	Workshop Concierge/Coordinator	Full-Time			Concentrated								
Darrow, Michael	Advise Re. Language-based Audio Selection	Full-Time			Concentrated								
	Advise Re. Music/Oral History Identification	Full-Time			Concentrated								
	Advise Re. privacy, ownership, and public access	Full-Time			Concentrated								
	Community communications Re. IMLS Grant Activity	Full-Time			Concentrated								
Music Consultants Jones, Bryan Ware, Jr., Wilson	Advise Re. Song/Performer ID; Cultural Coordinator Advisor; Photograph ID	Full-Time			Concentrated								
	Advise Re. Song/Performer ID; Historical/Contextual Detail	Full-Time			Concentrated								

KEY:

Full-Time	Black
Concentrated	Dark Gray
Intermediate	Medium Gray
Low/On-Call	Light Gray
Off-Duty	White

**Year 2 (September 1, 2021-August 31, 2022)**

Key Project Staff	Task	2021		2022									
		September	October	November	December	January	February	March	April	May	June	July	August
Aplin, Chris	Audio File Locate, Process, and Consolidate for Long-Term Preservation	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
	Data Cataloguing/Audio Processing	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
	Sustainability systems and digitization center establishment and training	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
	Manage Music Consultant Seminars/Teleconferences	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
Buckner, Brent	Draw-Up FSA Reports and IMLS Reports	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
	Collection Processor Oversight	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
	Manage Budget Disbursement	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
	Workshop Concierge/Coordinator	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
	Advise Re. Language-based Audio Selection	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
	Advise Re. Music/Oral History Identification	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
	Advise Re. privacy, ownership, and public access	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
Darrow, Michael	Community communications Re. IMLS Grant Activity	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
	Advise Re. Language-based Audio Selection	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
	Advise Re. Music/Oral History Identification	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
	Advise Re. Privacy, Ownership, and Public Access	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
Music Consultants Jones, Bryan Ware, Jr., Wilson	Community communications Re. IMLS Grant Activity	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
	Advise Re. Song/Performer ID; Cultural Coordinator Advisor; Photograph ID	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	
	Advise Re. Song/Performer ID; Historical/Contextual Detail	Full-Time		Concentrated		Full-Time		Concentrated		Full-Time		Concentrated	

**KEY:**

Full-Time	Full-Time
Concentrated	Concentrated
Intermediate	Intermediate
Low/On-Call	Low/On-Call
Off-Duty	Off-Duty



## 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.

The Fort Sill Chiricahua/Warm Springs Apache tribe is a Native Sovereign Nation with nation-to-nation relationship with the Federal Government. And, we state that the digital outcome of our project—restored library and scientific reference audio files intended to clarify the language, oral histories, and music of deceased elders—is *cultural heritage*. The Fort Sill Apache tribe will therefore maintain control of our distinct *digital cultural heritage*. Cultural heritage is not "product." "Product" can be protected under the limited-terms and conditions of copyright (for a period of the life of the author + 70 years) or other "non-restrictive licenses." Cultural heritage cannot: Our digital audio heritage contains language, stories, and songs dating at least across a century, if not much longer. How do you define "authorship" for a Coyote Story that has been told for centuries? Or, for the life experiences of a real individual (with living descendants) who lived historic moments, but passed in 1957? Life + 70 years offers no intellectual property protection whatsoever. The Fort Sill Apache tribe and Cultural Programs team is currently under a "black-out" period of deliberation concerning the security of, access to, and use of our cultural heritage collections. So, collections access is currently available to our Business Committee and Cultural Programs team, primarily; as well as for tribal members. Outside research access is available upon Business Committee review and permission. It should be noted that our "black-out" deliberation period is part of an ultimate access strategy in which our tribe performs advise-and-consent review of collection contents and determines public (general histories, possibly social song) and private (personal family histories, sacred song) protocols for access. Upon full review, we will draw up a finding aid. Throughout, we are discussing strategic partnerships with prominent cultural institutions including the University of Oklahoma and the Library of Congress for future public research access.

**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.

The Fort Sill Apache Tribe asserts its sovereign right to determine access to and use of community-based digital cultural heritage. Improper circulation of collections can result in loss of "culture" via appropriation of songs and stories for commercial purposes. Unauthorized access to family details can be manipulated to support all-too-common illegitimate claims of tribal membership and basic identity theft. The long-term commitment of our FSA Cultural Programs team through this conservative period of "black-out" advise-and-consent deliberation is intended

to minimize risks inherent in wider, public research. That is: Conservative, detailed commitment to our project design is intended to make materials available to community, first, and then widen after deliberation, as appropriate, to the intertribal communities of southwest Oklahoma and regional and national researchers through a strategically expanding method.

**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.

Our project does not create and “product,” but rather *cultural heritage* reference audio to support on-going efforts to study and analyze our distinct historical and linguistic heritage within the community. But, the personal events, family circumstances, and sacred songs contained within these collections are of invaluable historical worth. They are nonetheless “culturally sensitive,” since they are imperiled by wide circulation in the public domain. Our collection cataloguer is currently reviewing all audio, documenting contents, and assigning ownership responsibility first, to the Fort Sill Apache tribe and second, to the family documented in the recording. That way, researchers can seek formal collections access via the Fort Sill Apache Business Committee; if said researcher seeks clarification or public use of specific family materials, that individual or surviving descendants are to be contacted and advised. As stated previously: The long-term commitment of our FSA Cultural Programs team through this conservative period of “black-out” documentation and advice-and-consent deliberation is intended to minimize risks inherent in wider, public research.

## **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.

Audio restoration will target language-based recordings, especially those focusing on Apache language oral histories (e.g. Sam Haozous; 8 hours audio run time), Lew Kawaykla collection word lists (6 hours run time), and language-based ethnographic sessions created by linguists Marie-Louise Liebe-Harkort and Ralph Cooley (25 hours). Plan to prioritize 25-35 total hours of audio run time to target for restoration, contingent upon necessary labor and available cost.

**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.

End Point Audio, Nicholas Bergh, proprietor/engineer performs digital audio restoration via industry standard ProTools platform.

<https://www.endpointaudio.com>

**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.

We will create from original, CLIR Recordings at Risk preservation master audio files (24-bit/96kHz) edited (boost volume, noise reduction) derivative high-resolution (24-bit/96kHz), intermediate (16-bit/48kHz), and access (MP3) files (in keeping with the deliverables provided under the initial CLIR grant).

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

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

The Cultural Programs team will monitor and evaluate their workflow under the guidance of collection advisor Aplin over the next two years, as we train to implement sustainable, long-term preservation practices. Effectiveness will be measured against the completion of tasks the most important of which is the establishment of back-up and digital migration workflows within the FSA cultural office. This will be achieved through local Cultural Programs redundant duplicate storage, advise-and-consent of relevant FSA Business Committee members and Tribal Historian, rotated back-up management by tech support staff, and emergency storage via LTO digital tape storage on OURRstore (a digital cold archive located at the University of Oklahoma) in case of catastrophic loss.

**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).

This digital services project is about FSA digital collections sustainability. Through iMac command center consolidation of digital audio, photographic, and document files, we will ensure sustainable, long-term preservation of all FSA digital cultural heritage data. We then create four (4) redundant duplicate 5TB hard drives for distribution (including 3 southwest Oklahoma hard drives held between Cultural Programs, Administration, and Tribal Historian and 1 southern California hard drive, with Aplin, for geographic separation). These emergency access redundant back-ups will be replaced every 3-5 years. Our team will consult with FSA tech support Ward and Hooker-Kyle to evaluate additional steps for consistent local back-up via a dedicated server and/or rotated periodic file back-up. An additional copy of digital collections will be stored on OURRstore as emergency back-up in event of catastrophic loss. Cultural Coordinator Brent Buckner will be trained on best practices for preservation sustainability. This digital services grant establishes Cultural Programs leadership, with the Cultural Coordinator acting as central steward of digital cultural heritage collections. This formal strategy sets FSA processes for sustaining collections, regardless of personnel turnover. Our team will in addition continue discussion with the University of Oklahoma and Library of Congress American Folklife Center to negotiate options for research access, as well as digital and original master recordings for long-term preservation storage.

## **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).

Restoration audio metadata TBD by identified vendor, End Point Audio; Cataloguer documents collections via File Maker database under the standard Dublin Core Metadata Element Set (MES; with modest, tribe-appropriate modification).

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

Maintenance of metadata is component element of general long-term, sustainable preservation system implementation described under B.1 and B.2.

**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).

Metadata sharing is at present limited to the Fort Sill Apache Cultural Programs Office and Business Committee. Collection processing and documentation is a “black-out” period in which the tribe is seeking advice-and-consent deliberation regarding protection and preservation of, and access to its digital cultural heritage. While metadata is at present not widely shared, we are establishing institutional relationships (described under section Section 1, A.1-3) that will make this possible in the most effective and responsible way in the future.

## **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).

Materials are available for research upon visiting the Fort Sill Chiricahua/Warm Springs Apache Cultural Programs Office and Library. Cultural Programs shares its collections with outside researchers upon approval by the Business Committee. It maintains a reference library and cultural archive including community-based recorded sound, photographs, documents, and artworks. Currently managed by Cultural Coordinator Brent Buckner, the Cultural Programs office is open to the public Monday through Friday, from 9 a.m. to 4:30 p.m.

**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.

Not Applicable

### **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.

Not Applicable.

**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.

Not Applicable.

#### **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.

Not Applicable.

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

Not Applicable.

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

Not Applicable.

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

Not Applicable.

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

Not Applicable.

#### **Access and Use**

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

Not Applicable.

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

Name of publicly accessible source code repository: Not Applicable.

URL: Not Applicable.

#### **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.

Our project works with digitized recorded sound, currently in possession, originally documented on instantaneous disc, reel-to-reel, and audio cassette. Recorded media content includes Apache language-based, oral history, and musical data. These items were digitized under the Council for Library Information Resources Recordings at Risk program in 2018. Preservation master files from this project will be used to develop edited derivative copies (with noise limited, target audio boosted) to help with research analysis of Apache language, history, and music. Tribe and collection consultant plan to execute End Point Audio restoration during first fiscal year of grant. Scope and scale of grant, please refer to Section 2, A.1.

**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?

All relevant activities have been reviewed and accepted by the Fort Sill Apache Business Committee, May 5, 2020; Please note: Enhancement Grant Application itself originates from the Fort Sill Apache Headquarters, Apache, Oklahoma.

**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.

Please see Section 1, A1-3 for details regarding intersection of privacy/confidentiality and intellectual property.

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

High-resolution preservation masters (24-bit/96kHz) are best used for fine, detailed work in platform like Protools, or LogicPro; Intermediate files are essentially “CD-quality” files that are widely readable by many playback applications (e.g. iTunes); MP3 are the lowest fidelity, but a widely used consumer playback format.

**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?

Metadata was initiated by vendors Media Preserve and Northeast Document and Conservation Center (NEDCC) under CLIR Recordings at Risk; End Point Audio will continue collaborative tradition with Consultant Aplin during restoration work. Metadata is stored on the file level, with each individual “flat-track” (or, continuous recorded “side” of data), as well as in the FSA Cultural Programs File Maker database. For details on our long-term audio and data preservation plan, please refer to Section II, B.1-B.3, C.1-C.3.

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

Please refer to Section II, B.1-B.2

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

Name of repository:

Fort Sill Apache Chiricahua/Warm Springs Apache Tribe Cultural Programs Office and Library,  
Apache, Oklahoma

OURRstore (digital cold archive), University of Oklahoma

Currently negotiating repository partnerships with:

- University of Oklahoma, Sam Noble Museum Native Languages Archive
- University of Oklahoma, Native Nations Center
- Library of Congress, American Folklife Center

URL: Not Applicable

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

On-going basis by Cultural Coordinator, specifically; or at maximum, as coordinated effort on part of Cultural Coordinator, Business Committee, and Tribal Historian, every 3-5 years upon need migrate external hard drive backups in order to avoid corruption (or the approximate shelf-life hard drive media).