# Survey of Archival Practices

**Survey Background:**

The Wisconsin Nitrate Project includes a survey to learn about prevailing practices within the archival community for the management of nitrate film collections. An online questionnaire and polling protocol was created by the Archives Group members of the grant project, comprised of personnel from the Wisconsin Center for Film and Theater Research, the Wisconsin Historical Society, and the Department of Communication Arts. Our questions focused on determining the type of archival institution; the size of the nitrate collection at that institution; the institution's day-to-day practices for nitrate storage, handling, and shipping; and the knowledge or experience of nitrate held by that institution's personnel.

**Constituencies:**

For purposes of our inquiry, the relevant archival community is considered to be comprised of two complementary constituencies: those archivists and institutions that work primarily with audio-visual materials and which might be expected to manage a large film collection, including nitrate film; and archivists and institutions for which the audio-visual collection may be only a small part of the archive's holding and not central to its mission, but which may nevertheless have some nitrate in the collection. Representatives of these constituencies could be contacted through their respective professional organizations: the Association of Moving Image Archivists and the Council of State Archivists. Questionnaires, included at the end of this document, were sent to the two constituencies.

The Association of Moving Image Archivists (AMIA) is an organization of archivists, collectors, historians, and filmmakers who work primarily, if not solely, with moving image materials in a variety of formats. Within AMIA, there is a Nitrate Committee made up of members who work with and are responsible for collections of films on nitrate. The survey was sent to the AMIA members of the Nitrate Committee, which numbers around 100 members. A total of 15 responses were received; 14 responses came back through the online survey and one institution submitted its answers via email. Repositories represented included public and private institutions ranging in size from one employee to approximately 3,000 employees. Holdings range between 1,000 reels to approximately 2 million reels. A majority of respondents held between 10,000 and 100,000 reels of nitrate moving image film.

The second group polled was the Council of State Archivists (CoSA), the member group for state archives. State archives generally hold permanent records from their respective state governments, but may also hold manuscript collections that are not government records, as well as collections encompassing all formats. While many have film, videotape, and photographs in their holdings, their focus and training is not usually moving image materials. There are a total of 51 archives represented by CoSA, 21 of which responded to our survey. Of these 21 respondents, 12 institutions have nitrate moving image film. Eleven of the 12 have collections of less than 100 reels; one institution has 1,110 reels of nitrate film. At least 13 of the 21 institutions have still nitrate photograph negatives ranging from a few items to 13,000 nitrate negatives.

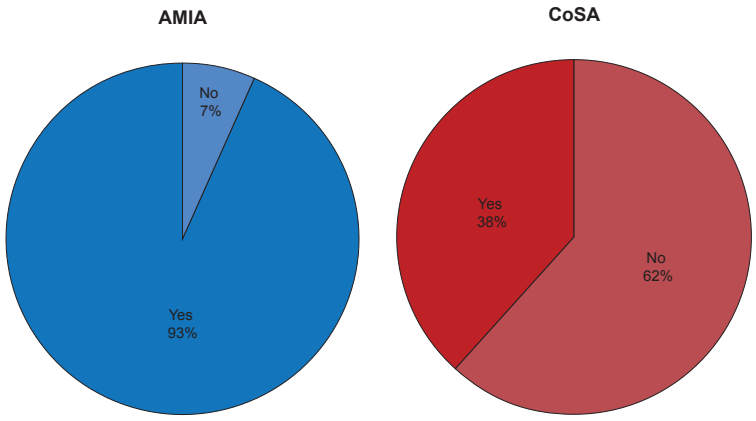
We understand that the AMIA group represents archivists who have experience and sophistication when it comes to dealing with nitrate holdings. Our interest in the CoSA group, therefore, was to see how the larger, more general archives community deals with the nitrate in their own collections. Our polling results yielded some revelatory divergences between the two groups in terms of storage and preservation practices. The report that follows compares the two constituencies on parallel questions.

## Survey Results:

### Storage:

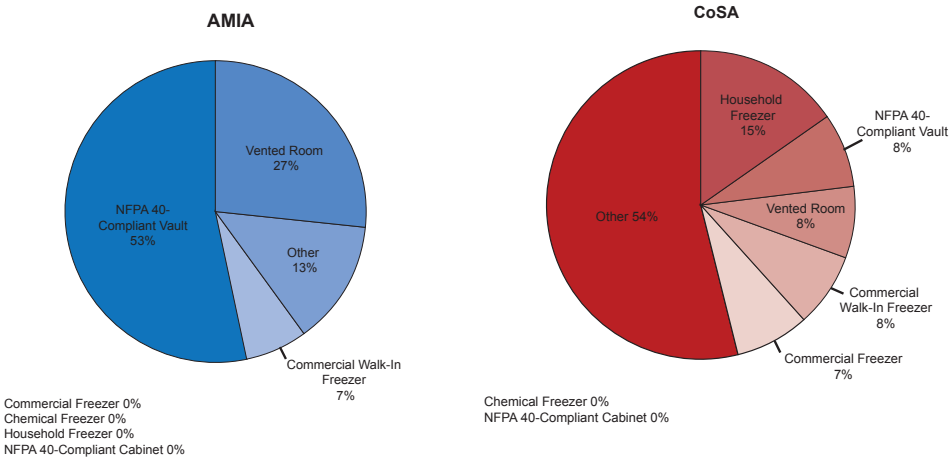
The survey found that among AMIA respondents, overwhelmingly (93%), film collections were housed in a specially constructed storage facility. By contrast, the majority of respondents from CoSA (62%) reported that their repositories' film holdings were not housed in any specially constructed facility.

| Is your film collection housed in a specially constructed facility? | | |
|---|---|---|
| | **AMIA** | **CoSA** |
| **Yes** | 14 | 8 |
| **No** | 1 | 13 |




AMIA and CoSA representatives were then asked to select their type of storage facility based on some common options. It is notable that the majority of AMIA respondents (53%) identified a dedicated film vault, while only 8% of CoSA respondents mentioned the equivalent. The CoSA respondents sometimes listed multiple options, and 54% described their storage facility as "Other." These results suggest the varied storage arrangements in the CoSA community in particular.

| Which of the following best describes the storage for your film collection? | | |
|---|---|---|
| | **AMIA** | **CoSA** |
| **Household freezer** | 0 | 4 |
| **Commercial freezer** | 0 | 2 |
| **Commercial walk-in freezer** | 1 | 2 |
| **Chemical freezer** | 0 | 0 |
| **NFPA 40-compliant vault** | 8 | 2 |
| **NPFA 40-compliant cabinet** | 0 | 0 |
| **Vented room** | 4 | 2 |
| **Other** | 2 | 14 |



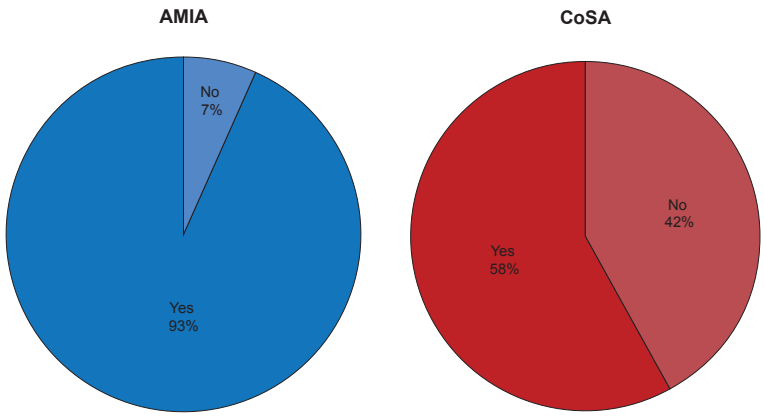

Respondents also had the option of describing their storage facilities.

| Descriptions of Storage Facilities from AMIA Respondents | |
|---|---|
| **Institution #6** | Temperature and humidity controlled vented room |
| **Institution #7** | Vaults, come climate and humidity controlled, some not |
| **Institution #9** | Nitrate vaults |
| **Institution #16** | Vented room: vault |

| Descriptions of Storage Facilities from CoSA Respondents | |
|---|---|
| **Institution #12** | Non-NFPA 40-compliant vault; some household freezer, some segregated room, some mixed in general archives collection |
| **Institution #17** | Air conditioned, concrete basement w/ halon fire-suppression system |
| **Institution #20** | Vault with colder than regular building temperatures |
| **Institution #21** | Archival repository kept at 60 degrees and 40% relative humidity |
| **Institution #22** | Separate climate and humidity controlled vault |
| **Institution #23** | General stack area |
| **Institution #24** | Cold Storage vault with microfilm holdings |
| **Institution #27** | Dedicated general archives storage space with climage control for general collections preservation |
| **Institution #28** | Our silver halide microfilm is stored in an environmentally controlled vault |
| **Institution #30** | Environmentally controlled "quarantine room" |
| **Institution #32** | Standard archives storage area |
| **Institution #33** | Stacks designed for storage of paper: approx. 55 degrees F, 43% RH |
| **Institution #35** | Only nitrate stock is kept in freezer |
| **Institution #36** | Stack storage 60 degrees and 40% RH |

Segregation of nitrate film materials appears to be a common practice across all types of repositories, as 93% of AMIA and 58% of CoSA respondents reported this practice as a basic preventive measure.

| Is nitrate film segregated from other materials? | | |
|---|---|---|
| | **AMIA** | **CoSA** |
| **Yes** | 14 | 11 |
| **No** | 1 | 8 |

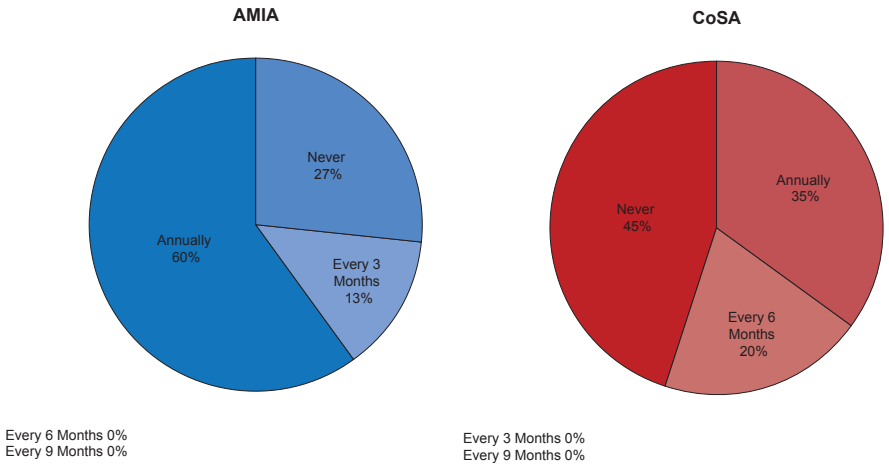



## Inspection:

Regular inspection of holdings, however, seems to vary widely by institution. While a majority of AMIA respondents (60%) stated that they made annual inspections of their nitrate holdings – and 13% inspected even more frequently – a handful of respondents (27%) stated that no regular

inspections were done for nitrate holdings specifically. Institutional type may influence the decision to make regular inspection a priority even more. The largest segment of CoSA respondents (45%) stated that no regular inspection of nitrate film holdings occurs, while 35% stated that annual inspection occurred in their institution.

| How often do you physically inspect your nitrate holdings? | | |
|---|---|---|
| | **AMIA** | **CoSA** |
| **Never** | 4 | 9 |
| **Every 3 months** | 2 | 0 |
| **Every 6 months** | 0 | 4 |
| **Every 9 months** | 0 | 0 |
| **Annually** | 9 | 7 |




Respondents also had the option of describing their nitrate inspection processes.

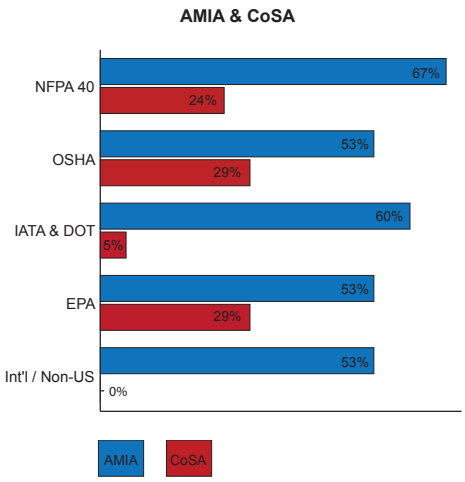
| If you have an established procedure for inspecting your nitrate, please describe it briefly | |
|---|---|
| **AMIA Respondents** | |
| **Institution #1** | Open can, remove roll and visually look for signs of decomposition and rust in the can, return to can |
| **Institution #2** | Cans are removed from shelves and opened. Staff look for tell-tale signs of nitrate deterioration - funky odors, rust on the inside of the can lids, presence of nitrate dust or "honey" etc. Info is added to our collection management database and reported to curatorial staff |
| **Institution #3** | We pull the material with the oldest inspection date from the vaults and inspect them on a workbench. We make condition notes to be added to our paper filing system as well as our cataloging system. We check the level of decomposition based on FIAF codes and make notes of any color process, scratches, dirt, and damage to the film. We also check edge codes and completenes of the element |
| **Institution #4** | Reversing the wind, taking condition and credit notes for each reel. Removing decomposition if necessary |
| **Institution #6** | Visual and any question of stability a touch of the tonge, if it's bitter, it's starting to decomp. |
| **Institution #8** | Yes, according to deterioration levels as described by FIAF and elsewhere |
| **Institution #9** | Very detailed inspection report, by hand |
| **Institution #11** | Every year we host FLIP, an event where volunteers open every can of nitrate, flip over the reel, and check for obvious signs of decomposition on the reel or interactions with the can. Flagged reels are labeled "TBP" (to- be-printed) and segregated to a different shelf. They are also brought back for full inspection by our nitrate archivist. In addition, inspection is done on-demand every time a reel is requested for a client or for internal use. |
| **Institution #13** | We check the reels for any signs of decomposition. |
| **Institution #14** | We continually check all of our nitrate cans by winding through every roll. Since we had to reduce staff we don't know yet how long it takes to go through the collection like this (perhaps 2 years?). Additionally, employees where our nitrate is deposited open every can each year to check for signs of nitrate decay on the surface of the film rolls. |
| **Institution #15** | Open each can of film. Lift the roll from the can to check both sides of the reel for signs of deterioration. Segregate from the collection if item is found to be deteriorating. |

| If you have an established procedure for inspecting your nitrate, please describe it briefly | |
|---|---|
| **CoSA Respondents** | |
| **Institution #12** | We did an item level inspection on a rewind in 2010, and as new nitrate films are discovered, housed for freezing, or problems are noted they are inspected again. It's unlikely that there will continue to be annual evaluations of nitrate holdings in the future, nor was that the practice before 2010. |
| **Institution #18** | We have a checklist for each collection that determines deterioration levels |
| **Institution #20** | Open film cans - check for odors, color changes, stickiness |
| **Institution #30** | I have it as a recurring item on my calendar |
| **Institution #32** | Arbitrary physical inspection of storage boxes |
| **Institution #34** | Since it is stored in a freezer, it is inspected only when needed for duplication or scanning |
| **Institution #35** | Photographic materials are inspected upon reciept. Nitrate materials are segregated at that time. Visual inspections are made annually after that. |

## Regulatory Agencies:

AMIA and CoSA were then asked which regulatory agencies may have influenced their institutional policies on storage, handling, or shipping. The AMIA delegation reported a greater variety of relevant agencies and a higher level of regulatory influence.

| In your handling of nitrate, do you consult and are you influenced by the guidelines for any of the following regulatory organizations? (please select all that apply) | | |
|---|---|---|
| | **AMIA** | **CoSA** |
| **NFPA 40 (storage and playback)** | 10 | 5 |
| **OSHA (employee health/respiratory safety, mandated training)** | 8 | 6 |
| **IATA & DOT (shipping)** | 9 | 1 |
| **EPA (disposal)** | 8 | 6 |
| **International / Non-American organizations** | 8 | 0 |

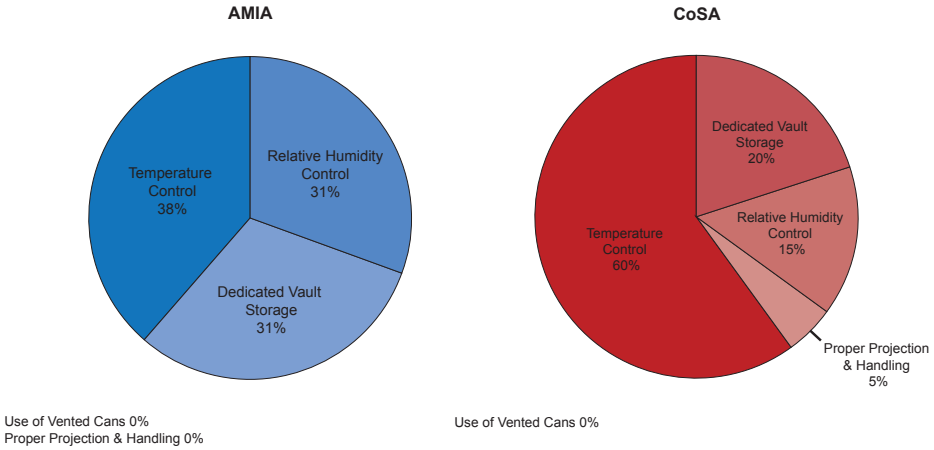



## Preservation:

Respondents were given a list of five factors (temperature control, relative humidity control, use of vented cans, dedicated vault storage, and proper projection and handling) that play a role in minimizing risk and maximizing preservation for nitrate film, and were asked to rate them, on a scale of 1 to 5, from most important to least important.

There was a fair amount of agreement between AMIA and CoSA respondents as to which of these factors were more important. As indicated in the graphs below, a plurality of AMIA respondents (38%) and the majority of CoSA respondents (60%) stated that temperature control was the most important factor. Among the rest of AMIA respondents, 31% claimed RH was most important and 31% claimed vault storage was the most important. Of CoSA respondents, 20% said that vault storage was most important, 15% said RH was most important, and 5% said proper projection and handling was most important.

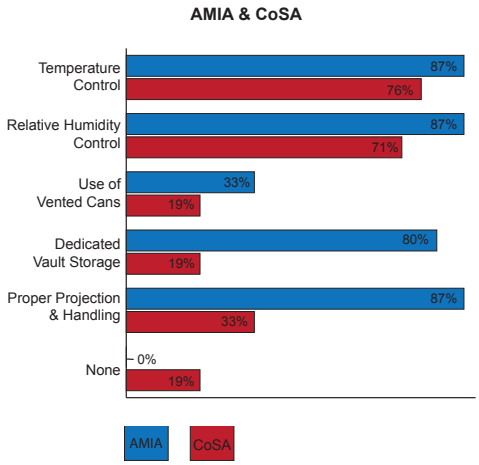
| Please rank the following (on a scale from 1 to 5) in terms of what you understand to be the most important conditions for minimizing risk and maximizing preservation for nitrate film. | | |
|---|---|---|
| | **AMIA** | **CoSA** |
| **Most** | Temperature Control (38%) | Temperature Control (60%) |
| **2nd** | Relative Humidty (31%) / Temperature Control (31%) | Relative Humdity Control (55%) |
| **3rd** | Dedicated Vault Storage (54%) | Use of Vented Cans (45%) |
| **4th** | Proper Projection & Handling (54%) | Dedicated Vault Storage (40%) |
| **Least** | Use of Vented Cans (62%) | Proper Projection & Handling (75%) |




Both AMIA and CoSA respondents selected RH as the second most important factor, but AMIA respondents were more divided over whether RH or temperature were more important.

The majority of CoSA respondents reported being able to meet those criteria deemed most important: temperature control (76%) and relative humidity control (71%). The majority of AMIA respondents (80% or more) reported being able to meet all of the criteria, with the exception of vented cans. However, given that many AMIA respondents did not think vented cans were an important factor, these data might reflect a decision not to use them, rather than an actual inability to secure them. Nineteen percent of CoSA respondents reported that they were not able to meet any of the conditions.

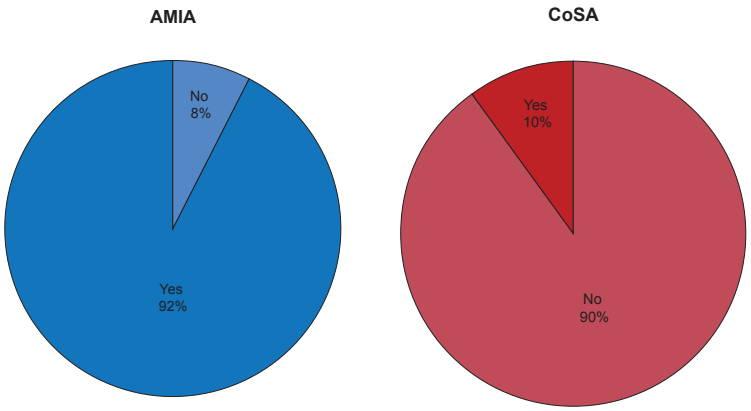
| Which of the following categories for minimizing risk and maximizing the preservation of nitrate film is your facility able to meet? (please select all that apply) | | |
|---|---|---|
| | **AMIA** | **CoSA** |
| **Temperature control** | 13 | 16 |
| **Relative humidity control** | 13 | 15 |
| **Use of vented cans** | 5 | 4 |
| **Dedicated vault storage** | 12 | 4 |
| **Proper projection & handling** | 13 | 7 |
| **None** | 0 | 4 |



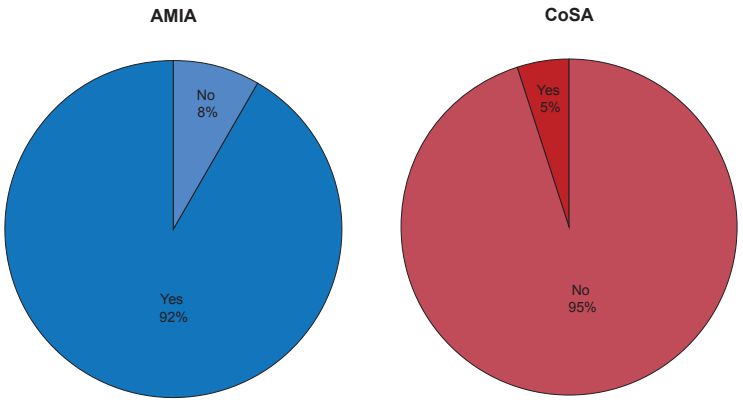

## Packaging and Shipping:

The survey also asked about options among institutions in regards to packaging and shipping of nitrate film, and about training in this area. Among AMIA respondents, the vast majority (92%) report having had an occasion to transport nitrate film. The same percentage report receiving some level of training in the packaging and shipping of nitrate. By contrast, the majority of CoSA respondents (90%) had never had an occasion to transport nitrate film. This seemed to correspond to the percentage of respondents that had also never received training or certification in the packaging and shipping of nitrate (95%), a logical correlation.

| Do you have the occasion to transport nitrate film? | | |
|---|---|---|
| | **AMIA** | **CoSA** |
| **Yes** | 12 | 2 |
| **No** | 1 | 18 |

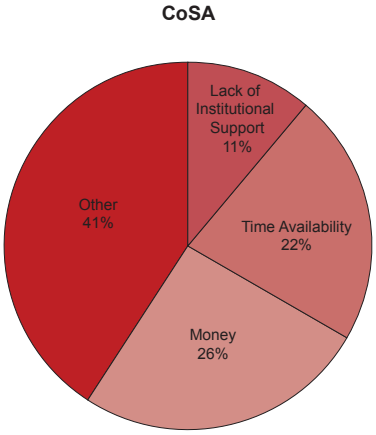


| Have you been trained in the packaging of nitrate? | | |
|---|---|---|
| | AMIA | CoSA |
| Yes | 11 | 1 |
| No | 1 | 19 |




The reasons given for lack of training in this area (chiefly by the CoSA respondents, who were also given the option of citing more than one factor) was that these duties lay outside of the respondent's professional responsibilities; that the packaging and shipping was handled by another department; or that the institution simply did not package and ship these materials at all.

| What has prevented you from receiving training and certification? (please select all that apply) | | |
|---|---|---|
| | AMIA | CoSA |
| Money | 0 | 7 |
| Time Availability | 0 | 6 |
| Lack of institutional support | 0 | 3 |
| Other (please specify) | 1 | 11 |




Some respondents elaborated on the reasons why they had not been trained and certified in the shipping of nitrate materials.

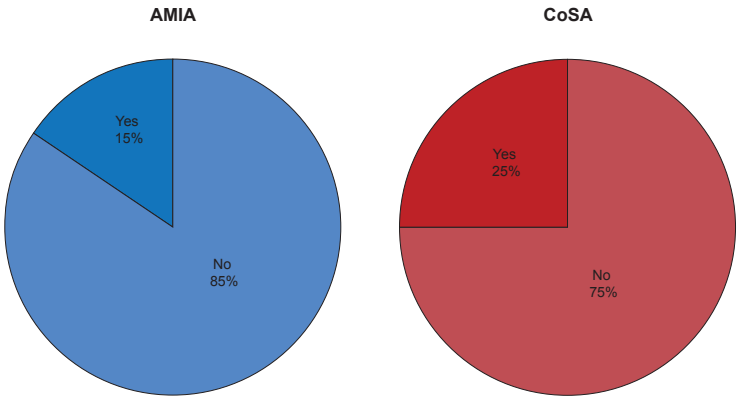
| What has prevented you from receiving training and certification? | |
|---|---|
| AMIA Respondents | |
| Institution #14 | Shipping is handled by another organization |

| What has prevented you from receiving training and certification? | |
|---|---|
| **CoSA Respondents** | |
| **Institution #18** | We don't ship |
| **Institution #19** | Another employee has been involved in this. I think the thing that has prevented her from being certified are the constantly changing regulations |
| **Institution #20** | We are under staffed, under funded and not a priority in the overall scheme of things until recently |
| **Institution #23** | Other priorities |
| **Institution #24** | Limited materials in the collection |
| **Institution #26** | We use off-site storage and have nitrate shipped directly to the service provider. Beyond what we had initially , everything since then goes directly to the third party |
| **Institution #27** | We hold no nitrate film |
| **Institution #31** | Didn't know there was a certification program out there! I trained myself using available literature and online training |
| **Institution #32** | We do not ship flat film so it is not an issue |
| **Institution #33** | There has been no reason to pack and ship nitrate negatives as we digitize still images in house |
| **Institution #34** | We don't have the need to ship nitrate film |

## Perceived Danger:

Perceptions of nitrate as dangerous did not seem to be a concern by either group, as the majority of both AMIA and CoSA respondents (85% and 75%, respectively) stated that this concern would not lead to the rejection or de-accessioning of nitrate film materials.

| Has the perception of nitrate film as dangerous or the difficulty of dealing with regulations caused you to not accept or deaccesion nitrate film in good condition? | | |
|---|---|---|
| | **AMIA** | **CoSA** |
| **Yes** | 2 | 5 |
| **No** | 11 | 15 |

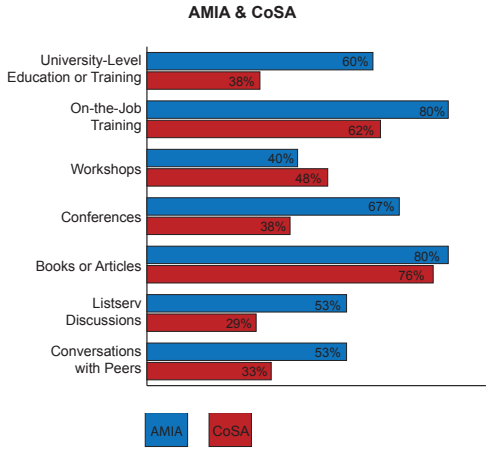



## Background Knowledge:

There appeared to be some commonalities between the two groups in how knowledge about nitrate materials was gained. AMIA respondents reported that on-the-job training and books or articles were the chief sources of their current knowledge about how to handle these

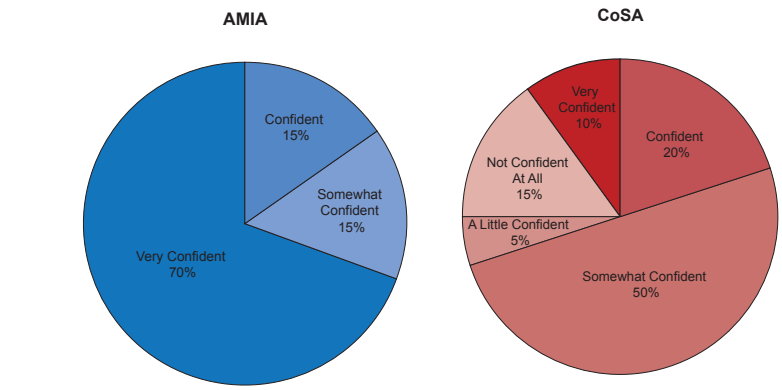
materials. Similarly, CoSA respondents most frequently cited books and articles as their means of gaining knowledge on the topic, followed by on-the-job training. The largest differential was university-level education or training: while 60% of AMIA respondents cited higher education as a source of knowledge about nitrate, only 38% of CoSA respondents reported gaining information in this way.

| How have you learned about nitrate? (please check all that apply) | | |
|---|---|---|
| | **AMIA** | **CoSA** |
| **University-level education or training** | 9 | 8 |
| **On-the job training** | 12 | 13 |
| **Workshops** | 6 | 10 |
| **Conferences** | 10 | 8 |
| **Books or articles** | 12 | 16 |
| **Listserv discussions** | 8 | 6 |
| **Casual conversations with peers** | 8 | 7 |




Respondents had the opportunity to self-report on their level of confidence in their knowledge of nitrate. All respondents from the AMIA group selected “somewhat confident,” "confident," or "very confident." However, while a majority (80%) of the CoSA group felt “very confident,” “confident,” or “somewhat confident,” 15% felt “not confident at all” about their knowledge of nitrate.

| How confident do you feel about your knowledge of nitrate? | | |
|---|---|---|
| | **AMIA** | **CoSA** |
| **Not confident at all** | 0 | 3 |
| **A little confident** | 0 | 1 |
| **Somewhat confident** | 2 | 10 |
| **Confident** | 2 | 4 |
| **Very confident** | 9 | 2 |

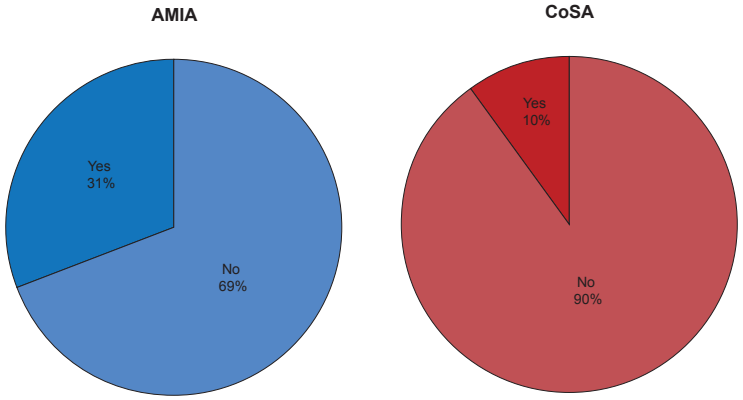



A Little Confident 0%
Not Confident at All 0%

## Fires:

The majority of respondents in both groups (69% for AMIA and 90% for CoSA) stated that they had not had direct experience with nitrate fires.

| Have you had any direct experience with nitrate fires? | | |
|---|---|---|
| | **AMIA** | **CoSA** |
| **Yes** | 4 | 2 |
| **No** | 9 | 18 |




When asked to describe their experience with nitrate fires, then, only a few respondents had incidents to report, and three of the AMIA responses involved controlled burns.

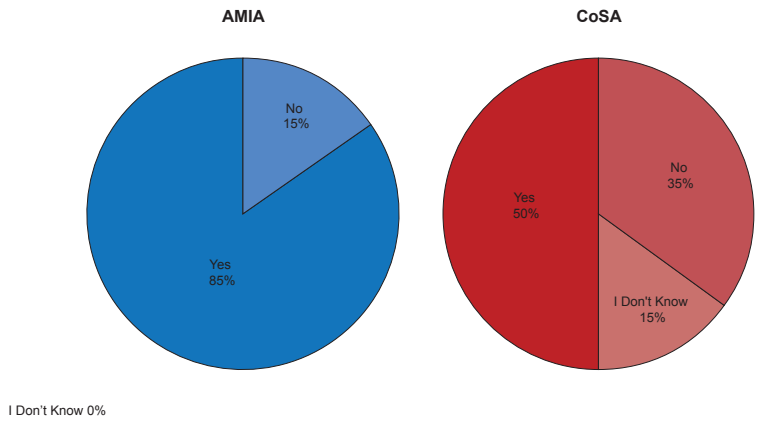
| Please briefly describe your experience with nitrate fires | |
|---|---|
| **AMIA Respondents** | |
| **Institution #3** | I will burn a small piece (about 5 ft of material) in a metal can in my parking lot to show my students the impact a nitrate fire could have on an archive. I do this once a year. |
| **Institution #6** | In 68 years of handling nitrate I've never even come close to a fire, only when burning wasted prints. |
| **Institution #9** | Test burns, in order to feel comfortable working with it. |
| **Institution #15** | #1. Film handling: static electricity while reel was being wound on motor rewind at high speed caused spark and fire. Reel burned out and work area damaged, but no one hurt. Handling procedures changed to enforce hand-winding at low speed. (Note: that static electricity was the cause of this fire is a point of dispute.) #2. Film storage: one reel self-ignited w/in can during a hot weekend. Sprinkler system protected other reels except for one can sitting on tp of burned film. Only two reels lost, and no one hurt. #3. Film storage/handling: While rearranging cans in vault, staff memer felt a hot can. Followed procedure by dropping can and locking vault. Film burned out inside container w/o triggering sprinklers. No further damae and no one hurt. #4. Film projection: Film stopped in gate of Norelco FP-20 projector likely due to bad splice. Film ignited and burned several feet before projector stopped automatically. Fire contained w/in projector but destroyed rear element for lens, runner strips, and skate. Did not spread further and no one hurt. Booth and projector are NFPA 40 compliant and approved by Fire Marshal. #5. Film projection: splice came apart as film went through gate and shot out of small slot in the door and back into lamphouse where it started to burn. Picture stayed on screen but no sound. Operator stopped machine, which extinguished fire. No one was hurt. Booth and projector are NFPA 40 compliant and approved by Fire Marshal. |

| Please briefly describe your experience with nitrate fires | |
|---|---|
| **CoSA Respondents** | |
| **Institution #12** | Worked at New York Historical Society in 2003, where there was a fire from a reel of nitrate film that was in a vented can and considered in good shape. Was particularly influenced against the idea of retaining nitrate prints at the time because of the destruction done to many other collections for the sake of erratically unstable film. I feel less inclined against against retaining nitrate as I learn more, however. |

## Deterioration:

Sizeable percentages of both AMIA and CoSA respondents (85% and 50%, respectively), however, reported noticeable deterioration of their nitrate materials over time.

| Have any nitrate films in your collection noticeably deteriorated over time? | | |
|---|---|---|
| | **AMIA** | **CoSA** |
| **Yes** | 11 | 10 |
| **No** | 2 | 7 |
| **I Don't Know** | 0 | 3 |




The two groups were asked about the steps taken in response to signs of nitrate deterioration and provided a variety of responses. Fairly consistently, though, respondents described removing the deteriorated nitrate from the rest of the collection to be either copied or destroyed, depending on the institution's policies or capabilities.

| What steps did you take upon noticing the deterioration of nitrate? | |
|---|---|
| **AMIA Respondents** | |
| **Institution #1** | We alert the curatorial staff as to the condition of the nitrate, monitor the film, and if necessary, recommend to destroy the roll |
| **Institution #2** | Deteriorated sections removed and disposed of as hazardous waste. Remaining sections of the film were evaluated for possible preservation copying, and if determined to be appropriate, this is done. Film goes back into storage. In general terms, our storage conditions are so good that the primary level of deterioration of the films happened outside of our control. Films that have been in our control are generally very stable and not obviously deteriorating. |
| **Institution #3** | Contacted the curator about the conditions and asked for approval to remove any sections that were no longer able to wind through. This is documented in our cataloging records. If the material is completely deteriorated, I ask the board of trustees for formal approval to de-accession the item from the collection. |
| **Institution #4** | Deteriorated nitrate was removed and properly disposed of. This mostly happened before the nitrate was moved to our cold storage vault in 2008. |
| **Institution #6** | Contact the appropriate archive |
| **Institution #7** | Loose winding. We cut-off the bad parts (too sticky to unwind) and throw them away. In the future, I hope to get a drying cabinet (simple cupboard with wire shelves and strong airflow) |
| **Institution #9** | We are a full-service motion picture photochemical lab, so we preserve and restore it |
| **Institution #11** | Deteriorated films are marked "TBP" (to-be-printed), and if preservation funding can be secured from a grant or a private donation (we have a modest endowment), it is copied. We have much more film than we can copy, and prioritize based upon curatorial assessment of content and condition. We remove sections of film where the image is already lost if the remainder can be salvaged, and discard film that has reached the last stages of decomposition. |
| **Institution #14** | We removed the deteriorated parts and tried to salvage the rest of the film. If this wasn't possible, the nitrate was disposed. |
| **Institution #15** | After deteriorated elements are segreated from collection, a list of these items with title and element description is submitted to curator, archivist, and preservationists. Depending on a set of values, which include rarity, vintage (earliest generation), historical importance, etc., some items are selected and cued-up for duplication, while others have the deteriorated section(s) removed before returning to storage. |
| **Institution #16** | Placed in specialized cold storage. |

| What steps did you take upon noticing the deterioration of nitrate? | |
|---|---|
| **CoSA Respondents** | |
| **Institution #12** | A film preservation intern surveyed our nitrate moving image collection in 2008 and again in 2010. Some films have deteriorated considerably. We discarded fused film, made plans to digitize some damaged film, and placed others in freezers. We routinely weed fused still negatives, when we come across them. |
| **Institution #25** | Scanned and put in freezer |
| **Institution #26** | We attempt to arrest the deterioration and then seek to restore/conserve what we can. |
| **Institution #29** | All nitrate negatives in our holdings were reformatted onto safety film |
| **Institution #30** | Deaccessioned and destroyed |
| **Institution #31** | Froze it |
| **Institution #33** | Alerted management to issue. Began a program to digitize negatives |
| **Institution #35** | Reformatting |
| **Institution #36** | Copying the still film negatives to preserve the historical image |

Those respondents who had not noticed deterioration most commonly cited proper storage conditions as the reason.

| To what do you attribute the lack of noticeable deterioration of your nitrate collection? | |
|---|---|
| **AMIA Respondents** | |
| **Institution #5** | We have a very small and stable collection. Our reels are actually stored at LoC in their vautls and we inspect them very infrequently. During that time, we've not noticed any new or additional decomposition. |

| To what do you attribute the lack of noticeable deterioration of your nitrate collection? | |
|---|---|
| **CoSA Respondents** | |
| **Institution #18** | Temperature and humidity control, freezers |
| **Institution #20** | The vault where they are stored has not been subject to major temperature and humidity changes, even though the proper temperatures and humidity have not been maintained |
| **Institution #24** | Consistent temperature and humidity control |
| **Institution #25** | In the freezer |
| **Institution #26** | Institutional lack of knowledge (early) |
| **Institution #30** | Prior storage without environmental controls |
| **Institution #31** | We have an excellent walk-in freezer and the itmes are in sealed packages |
| **Institution #32** | Control of temperature and RH. Good air circulation |
| **Institution #34** | Storage temps and RH |
| **Institution #35** | Proper environmental controls |
| **Institution #36** | Good storage conditions (not the best, but very good). Lack of handling, etc. |

**Respondent Recommendations:**

Both respondent groups identified a number of priorities for knowledge and education in the area of nitrate film. AMIA respondents stated three priorities in particular: eliminating rumors and folklore about working with nitrate, real data about “the brown powder,” and a simple fact sheet on how to package and ship materials. CoSA members are very interested in guidelines and

information on identifying nitrate film – particularly flat photographic nitrate negatives which are more likely to be found in non-moving image archives than nitrate moving image film.

| **What kind of knowledge would be most helpful to convert into practice? What information would be helpful to you in your storage and handling of nitrate?** | |
|---|---|
| **AMIA Responses** | |
| **Institution #1** | Eliminate false rumors and folklore about nitrate and nitrate storage. |
| **Institution #2** | Real data about the stages of deterioration and whether nitrate "brown powder" is actually flammable or explosive, what are the true cirucmstances regarding nitrate that might lead to fires due to "spontaneous" combustion, and absolutely debunking the myth that nitrate film is ever shock sensitive |
| **Institution #4** | Proper/regular inspection of all nitrate holdings, returning the cans back to the proper (cold) storage |
| **Institution #7** | A simple "how to ship nitrate" facts sheet - valid for Europe and USA, air and land transport |
| **Institution #9** | What collections/archives have the most critical needs? |
| **Institution #11** | Any way to bring down the cost of shipment and storage would be appreciated. It would also be great to know more about health hazards. Obviously, we would also want to know if the health and safety risks were more elevated than previously thought. |
| **Institution #14** | It would be great if the FIAF Treasures database gave more detailed information about the preservation status of films shot on nitrate stock. This way it would be easier to decide if we should preserve a title from our own collection since this isn't always necessary if the title is preserved at another archive. |
| **Institution #15** | Although we recognize and respect the hazardous characteristics of nitrate film, our experience tells us that the powder generated by deteriorating nitrate is not shock sensitive or explosive, as described in the current MSDS. We are not sure what effect it would have on the handling and disposal of nitrate film if this assertion could be disproven, but it would be most helpful to know for sure what real danger it actually poses to the staff, our collection, and the environment. |
| **Institution #16** | Comprehensive environmental information (beyond temperature and humidity concerns) |

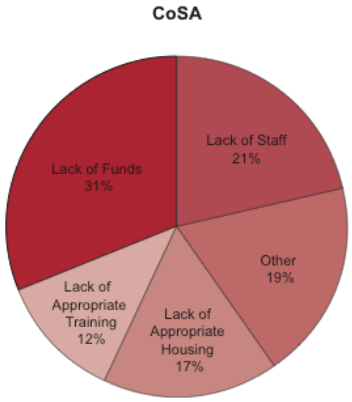
| What kind of knowledge would be most helpful to convert into practice? What information would be helpful to you in your storage and handling of nitrate? | |
|---|---|
| **CoSA Responses** | |
| **Institution #12** | Whether to freeze or to vent? (storage practices that minimize risk of deflagration) |
| **Institution #18** | How to identify, preserve, and store. Levels of deterioration |
| **Institution #20** | Proper identification of nitrate films, proper storage and handling practices and procedures, etc. |
| **Institution #22** | Information about the projection of nitrate film would be helpful |
| **Institution #24** | Reformatting of nitrate film; stages of deterioration to watch for |
| **Institution #25** | Ability to recognize it |
| **Institution #26** | We out-source most of that service |
| **Institution #31** | I'd like to know more about national standards |
| **Institution #33** | Brief directions in plain English - no more than one page |
| **Institution #35** | Better acuity in visual identification of nitrate film stock |
| **Institution #36** | From time to time I have need to ship film, but as I am not certified and cannot get anyone certified to ship for me, it remains in our excellent vault storage / segregated from other material. |

The survey sent to CoSA also asked what changes the respondents would like to see made to the NPFA-40 code governing nitrate film. While few respondents answered this question, those that did requested a better method for storing nitrate and attention to nitrate sheet film.

| What else would you like to see addressed or explained in the NFPA code? | |
|---|---|
| **Institution #12** | an intermediate and achieveable method for storing nitrate |
| **Institution #20** | Not sure, don't have enough knowledge of the subject matter to comment |
| **Institution #31** | can't think of anything |
| **Institution #32** | The code only addresses the roll film. It needs to be updated to also addresses sheet film issues. |

CoSA respondents were also asked about the obstacles they faced in their management and care of nitrate materials, such as a lack of staff, lack of training, lack of housing, or lack of funds. Respondents were able to select multiple answers, and the results point toward a variety of issues facing these institutions, with no one obstacle emerging as the most significant.

| What are the obstacles to overcoming your management and care of nitrate film in your institution's collection? | |
|---|---|
| Lack of staff | 9 |
| Lack of appropriate training | 5 |
| Lack of appropriate housing | 7 |
| Lack of funds | 13 |
| Other | 8 |




It is also important to note that 70% of CoSA respondents did not feel very confident in their knowledge of nitrate film – both flat photographic negatives and moving image nitrate film. This is an area AMIA members can and should address by doing educational outreach to non-moving image archivists via conferences, workshops and webinars.