What Was Old Is New Again: Managing Streaming Archival Films on Multiple Hosted Platforms

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Abstract

Time-lapse film is an engaging media to help deliver messages about our natural and built environments. The F. Franklin Moon Library at the State University of New York College of Environmental Science and Forestry (ESF), has a rich collection of films by a faculty member, one of the pioneers of time-lapse photography, from the 1950s through the 1980s which were deteriorating. With no usable equipment available to view film, we needed to move to a digital platform to make these films accessible for future students, alumni, and researchers. This case study describes the multi-platform process that we used in the F. Franklin Moon Library to engage students in special collections and bring a valuable special collection to the public.

Keywords: digitization, digital collections, institutional repository, collaboration, special collections

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Introduction

DR. HARLOW'S FILMS MAKE A HIT AT ZOOLOGY CLUB MEETING

The Forest Zoology Club came up with a different program at last Friday's meeting. Consequently, a record audience of over seventy persons crowded into Room 126, Marshall, as Dr. William Harlow, Professor of Wood Technology, demonstrated his Time-lapse Photography equipment and showed three excellent films. The films included the premier of Dr. Harlow's new time-lapse on pine cones, "How Pine Trees Reproduce"; also shown were "Insect Catchers of the Bog Jungle", and a unique, stimulating film named "River" (an Allegory).

Since Dr. Harlow produced his first film in 1952 on "Time-lapse Studies of Growing Trees", he has produced and/or filmed over twenty-four films, many of which have won high recognition and awards. His motion pictures have contributed to Walt Disney's "Secrets of Life", and Warner Bros. "The Animal World".

Few students in the audience knew about the College's film extension service, which has ninety-five free films on Forest Conservation available to interested groups. This general lack of knowledge about our school's many extension services is an unfortunate situation.

The Zoology Club thanks Dr. Harlow for a very informative and interesting program – and we add that these programs are open to all students and faculty.

Leslie Monostory

An article in *The Knothole*, ESF's student newspaper, reflects the lack of awareness that was prevalent in the 1960s and that is still true today (SUNY College of Environmental Science and Forestry Student Body, 1963). Image courtesy of SUNY College of Environmental Science & Forestry.

Try to imagine a professor of wood technology in the 1950s. A breathtaking and groundbreaking filmography is likely to be far from your mind, but that is exactly what Dr. William M. Harlow created as he conducted research and taught students. New media in the 1950s had a very different definition than it does today. Broadcast was considered a new media. Time-lapse photography, or the process of taking many photographs and viewing them in rapid succession to animate processes, helped bring to life tree cones opening and closing, flowers tracking the movement of the sun, and intimate glimpses into the lives of plants.

Developed in the early 1910s, time-lapse photography was being used in new ways in the mid-20th century. One of the pioneers of this new media at the State University of New York College of Forestry (now known as the State University of New York College of Environmental Science and Forestry, or SUNY ESF) was Dr. William M. Harlow.

Dr. Harlow was a professor at ESF from 1928 to 1965 in the Department of Wood Technology. During his tenure he wrote several books, including *Fruit Key and Twig Key to Trees and Shrubs and Textbook of Dendrology*. Newer editions of these publications are still used in the ESF curriculum today. He also filmed over 30 motion pictures for ESF, many of which garnered awards at film festivals. He filmed many more movies for Walt Disney Studios, such as *The Secrets of Life*, as well as Warner Brothers, Encyclopedia Britannica Films, and others from the late 1940s to 1980. Our archives hold a significant portion of his original films that are not owned by corporations. These films, housed in their original metal canisters, are in danger of deterioration because of their inadequate housing and lack of climate control. Of further concern was the lack of equipment, space, and expertise to use these films. This case study describes the post-digitization process, in which we cataloged the collection to ensure that it will be findable, accessible, and available for future faculty, students, and researchers.

Systems working together

F. Franklin Moon Library received funds from the Central New York Library Resources Council (CLRC) Regional Bibliographic Data Bases and Interlibrary Resources Sharing Program (https://clrc.org/grants-awards/rbdb/) to digitize some of the reel-to-reel films that were donated to the college archives by William M. Harlow. F. Franklin Moon Library succeeded in previous years in securing funds for digitization projects that could be used in the curriculum, such as a study print collection of a famous landscape architect, Fletcher Steele, and we were eager to obtain additional funding for other projects that would have wide appeal. The filmstrips were in fair condition, meaning they had not yet begun to deteriorate significantly but showed signs of wear and tear. The primary reason to digitize the films was not that they were in imminent danger of deterioration, although the lack of climate controlled environment and appropriate housing would have decreased their lifespan, but rather that they were completely unusable and unfindable to our community. We used a local commercial digitization service for the digitization process, Industrial Color Labs, Inc. This ensured an easy transport of the film, and they were priced competitively. The films were left in their original tin

canisters and returned via archival boxes with handwritten, transcribed metadata if it was present on the canister. The majority of the film was in good, useable condition but a few filmstrips were damaged beyond repair and were deaccessioned and discarded. Digital files were prepared and returned to us via an external hard drive for description and to upload to our content delivery system. An audiovisual archivist was not consulted through this process because at the time Industrial Color Labs, Inc., had the use of an Elmo Telecine machine to capture the audio, when it was available, and then combine the audio with the movie file, which we felt was sufficient as a first step.

It was very important that these films were part of our institutional repository (IR). ESF's IR, Digital Commons @ ESF, is hosted by bepress. The IR software does not allow for viewing uploaded media files; files must be downloaded to view content, even very large (2 gigabytes and larger) video files. The IR does allow embedding from a variety of sources, including YouTube, which allows viewers to stream the video without having to download the file (bepress, 2015). In order to allow users to view the content without downloading the file, we used Ensemble Video to host the files which were then pushed to YouTube. Ensemble Video is a digital media content delivery service that is used for feeds to multiple online outlets (Ensemble Video, 2016).

We felt that using Digital Commons exclusively would make for a very poor user experience; users would have needed to download large files with no preview of the material. We made the decision to add as much metadata as possible, forego uploading the full files, and rely on the embedded media served through Ensemble Video via YouTube, which results in a reasonably user friendly finding and viewing experience.

Because Ensemble Video is managed outside of the library through the Office of Communications, it was important that they were aware of the project from the beginning. There is a campus-wide policy that the Office of Communications is responsible for all digital media distribution (2014):

> The Office of Communications is solely responsible for any and all public distribution of College-related media. "Public distribution" includes all occasions of College-related media made freely accessible to the general public online via YouTube, web sites, iTunes University, social media sites and all similar outlets or channels. Public distribution of College-related media to any outlets or channels other than those

administered or approved by the Office of Communications is not permitted without expressed permission of the Director of Communications.

The Office of Communications aided the project by providing Ensemble Video platform support when we encountered a few problems. They increased the file size limit to its maximum capacity (20 GB) and created a Harlow playlist that helped us easily locate the items we contributed and created the feed which was published to YouTube. If files were larger than 20GB, they were split into parts and uploaded with the same metadata and slightly different titles, such as *Insect Catchers of The Bog Jungle: Part 1* and *Insect Catchers of The Bog Jungle: Part 2*. Ensemble Video has its own unique metadata fields which are focused heavily on the rights and ownership of media. We mapped metadata fields from the master Digital Commons metadata spreadsheet and repurposed existing information into Ensemble Video to provide descriptive information without having to recreate multiple fields.

We used Ensemble Video as a platform to upload multiple files to the ESF YouTube channel. By using Ensemble Video, rather than Digital Commons to upload the videos, we were able to upload multiple videos at once rather than individual files. While this process may seem tedious, it also provided the opportunity for our video and information to become searchable on a variety of different platforms, ultimately increasing the viewership of the archive's collections.

After files were uploaded to Ensemble Video and pushed to YouTube, we could incorporate the appropriate URL required to embed the media. This allows for convenient viewing, adequate description, and is in line with the campus wide policy to use Ensemble Video exclusively for digital media distribution. The narration audio was of a sufficient quality to allow for automatic transcriptions to be included in the YouTube video, which helps improve the accessibility of the items for those who may be hearing impaired.

According to Dr. Harlow's records, the films that he produced for ESF were lendable to the public for a nominal fee simply to cover the cost of shipping, and we felt that his demonstrated passion for teaching and education indicated that he would have been pleased to make his work available to a larger audience. Ultimately, however, ESF holds the rights to his work, essentially a work for hire, and is therefore free to share any work created for the institution. This is indicated as such in the metadata. We did not digitize any films associate with Disney or

Encyclopedia Britannica during the first round of digitization, nor did we seek copyright permissions from those companies.

Creating the workflow

Contributing and coordinating quality assurance for this project was the most challenging and exciting part of this collaboration. The William M. Harlow Film Series collection utilized Digital Commons @ ESF as the host for all the metadata for the individual films. The metadata itself was organized and formatted into a Google spreadsheet using fields established in Digital Commons. Digital Commons' metadata schema is based on Dublin Core, and standard fields were used. By working in a cloud-based spreadsheet, we could collaborate in real time, retain a master working copy of the metadata for both Ensemble Video and Digital Commons, and easily make changes before they were live on our platforms.

The metadata in the spreadsheet was then adapted and selected for Ensemble Video. The required metadata was slightly different in Ensemble Video, focusing more on new media and copyright rather than ease of discovery. Colleagues in the Office of Communications then pushed the video to YouTube which generated the URL needed to embed the media in Digital Commons @ ESF.

Several steps were required before any file could be uploaded to the server. The descriptive metadata was created and logged in the spreadsheet. The first step in this process was to determine the subject of
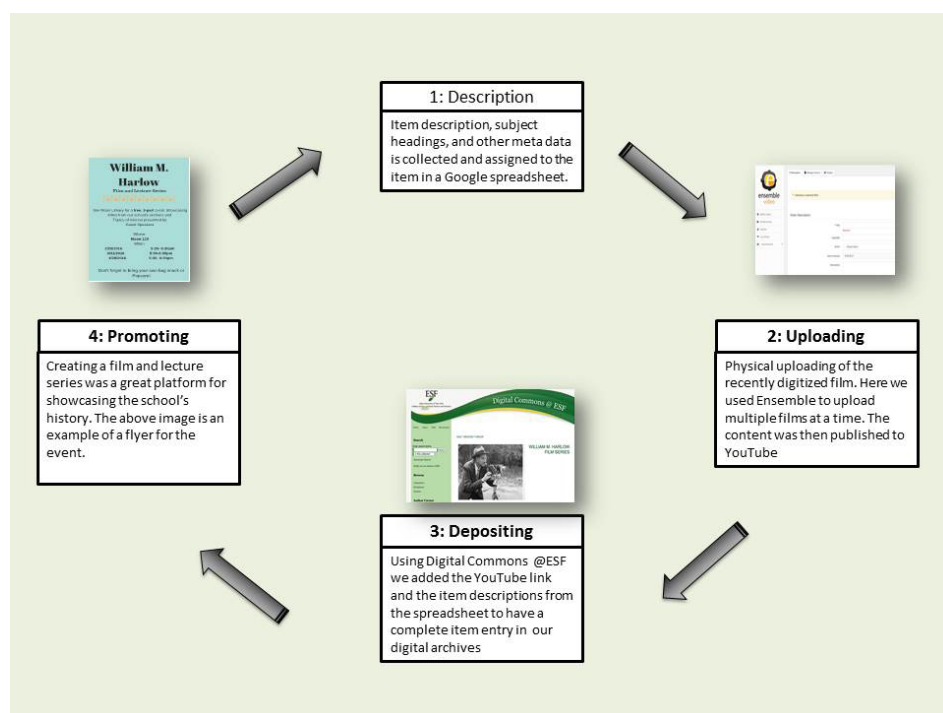
A straightforward workflow was used to disentangle a multi-platform process including sharing our results. Image courtesy of SUNY College of Environmental Science & Forestry.

the film, the quality of the film, and the creation date. This was exciting because it required a bit of detective work. In writing description, we elaborated on the subject headings to provide more descriptive identifiers and included key searchable words and phrases. Creating this description was essential for the online presence and visibility of the films.

The subject matter for each film was not usually clear, despite any title that may be on the metal canister, as the condition of the film containers was not always ideal, and in the canister's label might not reflect the content of the film. It was critical then to watch each of the films, taking note of any important figures or identifying subject matters like *plant*
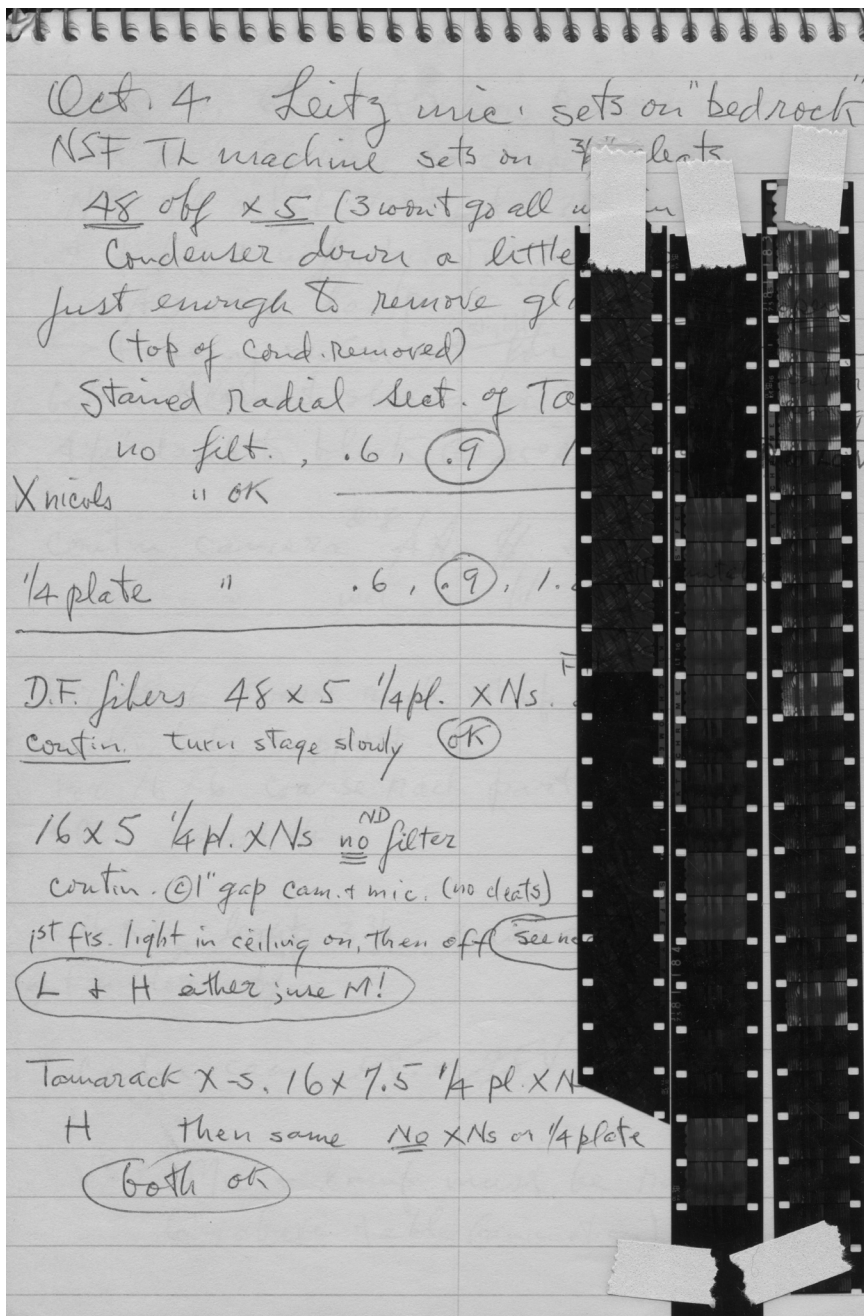
We looked through Dr. Harlow's daybooks and diaries for clues on film creation and subjects. Film edge codes were not located on the film reels so we had to use other indicators of time. Image courtesy of SUNY College of Environmental Science & Forestry.

growth, *root structures*, or specific *species*. After identifying the subjects of the film the next step was to assess the quality of the digitized file, looking for damages, color distortion, or where the film was scratched. This assessment helped to prioritize which films would be put into the description phase, as well as which films would be uploaded first. The last step in assessing the item was to find and assign a creation date to each film. For the majority of the films, using clues within the images themselves provided hints to the creation dates. In many of the films the cars, clothing, and other dated objects could be used as points of reference for the film's creation date. In some instances only an approximate date was able to be determined. Generally speaking, after watching each film (as the times are varied), developing and contributing the metadata took approximately one hour per item with about thirty minutes of associated discussion, problem solving, uploading, and managing.

After assessing the items, the next step was to begin assigning keywords to the items. Along with the subject headings in the master spreadsheet, using the disciplines provided by Digital Commons, we used key words or phrases to further increase the visibility and online presence of each item, as well as assuring a greater quality of the descriptions. The controlled vocabulary in assigning subject headings was an important step in the process to connect our collection to the larger Digital Commons network. The keywords are more flexible, and we created a modest data dictionary so we could identify specific common topics and techniques, such as "time-lapse videos."

After serious detective work, looking for clues and hints as to the subject of the films, the creation dates, and picking out keywords and subject headings, we were able to craft the item descriptions. By writing a description that incorporated the key terms, relevant subject headings, context for significance, and other pertinent information, we created a record that was highly searchable and linked across multiple interfaces and platforms, making our entries very professional and efficient.

Some of the films were damaged due to mishandling and improper storage, including loss of audio data which could not be recovered. Understanding that the audio commentary and narration was part of what makes these films so exciting, we decided to make explicit mention of is the presence of sound of any kind. We used the "comment" field to indicate which films included narration, commentary, music, and other sounds.

After metadata creation for Ensemble Video and YouTube, we uploaded the files into Digital Commons @ ESF. Beyond the standard metadata, a video link was also assigned to each film. The video links were obtained through the YouTube platform. We were able to use the batch import feature which saved time and decreased the likelihood of transcription

errors. The thumbnail images helped to distinguish the videos and provide a bit of elegance to the end user experience.

Results and next steps

In the fall of 2015 we were able to catalog, upload, and make public twenty-one of Dr. Harlow's films on a variety of topics, from time-lapse films of natural processes to waterways to forestry. Working through and documenting this project was an incredible learning experience that benefited the library, the campus community and the broader community. Working closely with an engaged and active student helped frame the library in a different light in some ways. The process was a little messy and redundant near the beginning of this new project, but ultimately it led to a manageable process that can be continued as more film is digitized.

After we had some content in Digital Commons @ ESF, we developed a film and lecture series to help promote the collection. The series was designed to include faculty and student run organizations in presenting thoughts and ideas on topics related to dendrology, biology, environmental issues, eco-cinema and environmental literacy, tying together their interests with a film from the collection to be shown at the end of the lecture.

The intention of these events was to show that the ideas and the curiosities of today's faculty and students were not terribly different from the those held by teachers 40-50 years ago, demonstrating that though our technology and understanding of the world may have changed, our desire for effective policy and integration of science and technology has not.

Although the first lecture series was not well attended, we suspect it was due to the timing during the day and conflicts with other events on campus. We are building more interest and awareness through social media outlets and class presentations, and we hope to gather more feedback for future planning events.

There are a few dozen more films that need to be described, uploaded, and made public. This workflow has been passed on to other capable student employees and serves as a model for other future library media/IR integrations. It is our hope that these films will be able to be used and adapted into ESF's curriculum just as the monographs that have been authored by Dr. Harlow have had a lasting impact in the education of our students.

Dr. Harlow has several dozen personal diaries in which he includes personal observations, field notes, and details on how he filmed his subjects. In the future we plan to create online displays of the breadth of our collection of Dr. Harlow's work.

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