



# ASU Gap-filling Pilot

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## Final Report and Recommendations

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## Background

### Why this pilot?

Archiving for the WEST program began in 2011, with new titles added every year since. When this pilot was conceived in 2021, WEST Archivers had retained holdings for over 32,000 distinct titles. At this point, the WEST Archive included over 18,000 medium and high risk titles with less trusted or no trusted digital access points. These titles are archived by a subset of WEST members: the Archive Builders.

It is particularly essential that medium and high risk titles are retained as completely as possible in print to ensure the ongoing availability of the content and the scholarly community's ability to digitize a complete copy in the future. To that end, WEST strives to match proposals to Builders with the deepest holdings, and then these Builders actively seek contributions from other WEST members to fill gaps in the medium and high risk level titles they archive. This activity is known in WEST as "calls for holdings."

Despite these efforts, an analysis in 2021 revealed that almost 22% of medium and high risk archived titles are estimated to be under 50% complete (see Table 1).

Archived holdings are of varying levels of completeness due to:

- the completeness of the local holdings at the time the retention commitment was made;
- the willingness and ability of WEST members to contribute volumes to fill gaps in response to calls for holdings; and
- the working definition of 'backfile' at the time the commitment was made.<sup>1</sup>

*Table 1. Estimated Completeness by Risk Level (captured July, 2021)*

Estimated Completeness of the WEST Archives				
Risk Level	Titles Archived	Avg Estimated % of Title Archived	Count of Titles <50% Complete	% of Titles <50% Complete
Medium	8,988	75.29%	1,849	20.57%
High	9,062	76.53%	2,120	23.39%
<b>Grand Total</b>	<b>18,050</b>	<b>75.91%</b>	<b>3,969</b>	<b>21.98%</b>

### Why Arizona State University?

In August 2021, the WEST project team presented a proposal to WEST's Operations and Collections Council (OCC) for a large project dedicated to gap filling in Cycle 13, involving all four eligible Archive Builder institutions. After discussion with the OCC and WEST Executive Committee, the project team

<sup>1</sup> During Archive Cycles 1-7 (2011-2017), the backfile was defined as "v.1-2005"; this was later updated to "v.1-2015" for Archive Cycles 8-11 (2018-2021), and were revised again to "v.1-2020" beginning in Archive Cycle 12 (2022). See the [WEST Disclosure Policy](#) section "Collection scope and definition of 'backfile'" (pg 4) for details regarding changes in the definition of 'backfile' over time.

## *ASU Gap-filling Pilot*

*Submitted to the Operations & Collections Council and Executive Committee May 2025*

reworked the original proposal into this more narrowly scoped plan for a pilot project to be conducted by a single Archive Builder.

Arizona State University (ASU) has been an Archive Builder for WEST since Cycle 1 (2011) and was optimally positioned to pilot this project for two primary reasons:

1. ASU staff have deep experience and engagement with normal Builder operations and workflows. Their strong track record of critical thinking around these workflows indicated that they would be well positioned to provide constructive feedback on the long-term potential of dedicated gap filling projects in WEST.
2. The success of WEST archiving at ASU has drawn down the number of local titles eligible for WEST archiving, and ASU was anticipated to have limited opportunities for medium and high risk level archiving in Cycles 12 & 13. Therefore, ASU had capacity to accommodate this pilot project, and their large collection of archived titles provided a significant opportunity for investigating different variables that could affect gap filling success rates.

Additionally, ASU expressed particular interest in exploring potential new avenues for collective collections, meaning that the opportunity to participate in this pilot resonated with local priorities.

## Pilot Scope

The ASU Gap-filling Pilot revisited a selection of medium and high risk titles and explored the cost-benefit of filling gaps by issuing revisited calls for holdings (calls for holdings for journal families committed during previous archiving cycles) and otherwise increasing completeness of holdings in the archived titles by extending their commitments to include additional local holdings. Pilot work and data gathering took place from November 2022 through February 2025.

## Pilot project goals

1. Increase the completeness of the WEST archives held by ASU
2. Research the viability of dedicated gap filling projects within the WEST archiving model
3. Share research findings to support other projects both within and beyond WEST

## Research questions

1. Are Builders likely to be able to extend backfiles for their archived holdings from their local collections?
2. What is the success rate for revisited calls for holdings?
3. What is the measurable impact of a dedicated gap filling project on the completeness of the WEST Archives?
4. Do the benefits of conducting a dedicated gap filling project (as measured in the above questions) balance with the effort and financial investment necessary to complete the tasks?

## Scopes of work

### WEST Operations and Collections Council (OCC) and Project Team scope of work

- Analyze ASU's retained collections and identify candidate titles for dedicated gap filling
- Define key metrics ASU will be asked to track on throughout the pilot
- Develop tools to support ASU reporting on progress and key metrics
- Review progress at regular intervals over the course of the pilot project
- Provide administrative support as needed to ASU

### ASU scope of work

- Review local unretained holdings for previously archived titles and add them to the WEST archives as available and appropriate
- Perform holdings verification and validation activities on the materials added to the WEST archives as required per WEST's policies, disclose activities and outcomes, and transfer to storage
- Issue calls for holdings to WEST members for remaining missing materials using the AGUA Request Holdings tool
- Submit retention records and gap statements to JRNL for passive solicitation of contributions
- Track statistics as requested by the OCC using methods or templates provided by the WEST Project Team
- Participate in quarterly meetings with the Project Team to share progress updates and consult on priorities and deliverables

## Selection Criteria & WEST Subsidy Budget

### Selection Criteria

The WEST Analyst performed a special analysis during the Cycles 12 & 13 collections analysis to identify titles previously archived by ASU for the gap-filling pilot project.

The criteria for the journal families proposed to ASU for the gap-filling pilot included:

- Between 30% and 99% completeness for archived holdings
  - Why - wide range supported more scenarios for testing; removed holdings from consideration that were assessed to be 100% archived
- >1 duplication of holdings in WEST
  - Why - ensured ASU would have at least one institution to request holdings from
- 1-3 copies archived in the Print Archives Preservation Registry (PAPR)
  - Why - focused the project on more at-risk titles nationwide

ASU used several additional criteria in finalizing their selections from the titles proposed:

- Exclusion of specific locations
  - Why - locations include unique or specialized collections that were unable to transfer to high density storage
- Exclusion of monographic series where possible

- Why - lack of clarity, in WEST and in the shared print community at large, around monographic series procedures for shared print retention
- Prioritizing titles to which ASU knew they were still subscribing
  - Why - higher likelihood of being able to extend commitments on additional unarchived holdings for the titles

## Final Selections for the Gap-Filling Pilot

A total of 711 ASU archived journal families were selected for the pilot. The project team calculated compensation for the pilot in close alignment with the established Archive Builder subsidy processes. A one-time report generated from AGUA provided *estimated remaining volumes to be archived* per journal family and total compensation was calculated leveraging the existing per-volume rate.<sup>2</sup>

Table 2. Summary of Selected Content and Subsidy

Title Category	Risk Level	Total Journal Families	Estimated Volumes Remaining to Archive <sup>3</sup>	Total WEST Subsidy
Title Category 3 (some electronic full text)	Medium	234	3,874	\$15,496
Title Category 4 (electronic abstracting and indexing only)	High	224	3,176	\$22,232
Title Category 5 (no electronic access)	High	253	3,290	\$23,030
Grand Total		711	10,340	\$60,758

## Pilot Findings & Discussion

Pilot findings are presented in response to the original four research questions defined for the pilot.

### 1. Are Builders likely to be able to extend holdings for their archived titles from their local collections?

The pilot outcomes indicate that extending the holdings for archived titles based on additional local holdings is an effective strategy for expanding the WEST collection and completing the archives.

Out of the 1039 titles included in this pilot, 464 titles were identified as eligible for adding local volumes, as titles for which there were no local volumes to add were excluded from the outset. During the pilot,

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<sup>2</sup> At the time, \$4 per volume for medium risk, \$7 per volume for high risk.

<sup>3</sup> Estimated volumes here refer to years of the print run.

ASU added a total of **3,812 volumes<sup>4</sup> across 304** of the 464 eligible titles from additional local holdings. This is **94% of the total volumes** added during the course of the pilot. This approach also impacted the highest number of titles during the pilot - approximately a third of titles selected for the pilot.

## 2. What is the success rate for revisited calls for holdings?

The pilot results demonstrate that revisited calls for holdings, as defined in the WEST [Archiving Standards and Requirements](#), are not a highly effective way to fill gaps in the WEST collection.

ASU identified 322 instances where another WEST member could potentially fill gaps in ASU's archived titles. This is significant because it affirmed that there is widespread *opportunity* to leverage the holdings of other WEST members to fill gaps in the WEST archived titles.

During calls for holdings in previous cycles, ASU had gathered information on reasons why members declined to fill gaps in ASU's archived titles. These reasons included state law, deed of gift issues, and library policy (such as needing to offer items to other in-state libraries first or the titles in question being held in special collections). For the purposes of this pilot, ASU committed to recontacting members who had declined previously. However, ASU excluded libraries they had contacted previously who were no longer WEST members, and libraries that had been contacted and declined for policy-related reasons in recent years.

Over the course of the pilot, 27 WEST member libraries received a call for holdings from ASU. By the end of the pilot, 63% of those libraries had responded in some way to a call. However, only one contribution from a call was fully processed during the time of the pilot, which resulted in ASU adding 119 volumes across 3 titles.

As of this writing, 8 libraries are still reviewing lists to determine what materials they can consider sending, while 4 libraries have successfully sent materials to respond to ASU's calls. This means WEST may very well see deferred benefit from the work of the pilot.

### Volumes Added through Offers

In addition to extending commitments on local holdings and receiving volumes through calls for holdings, ASU received offers through the Journal Retention and Needs Listing (JRNL) tool and directly from WEST members during the pilot. More volumes were added (143 total) and more WEST member libraries (five) contributed through offers than through responses to calls for holdings.

## 3. What is the measurable impact of a dedicated gap filling project on the completeness of the WEST Archives?

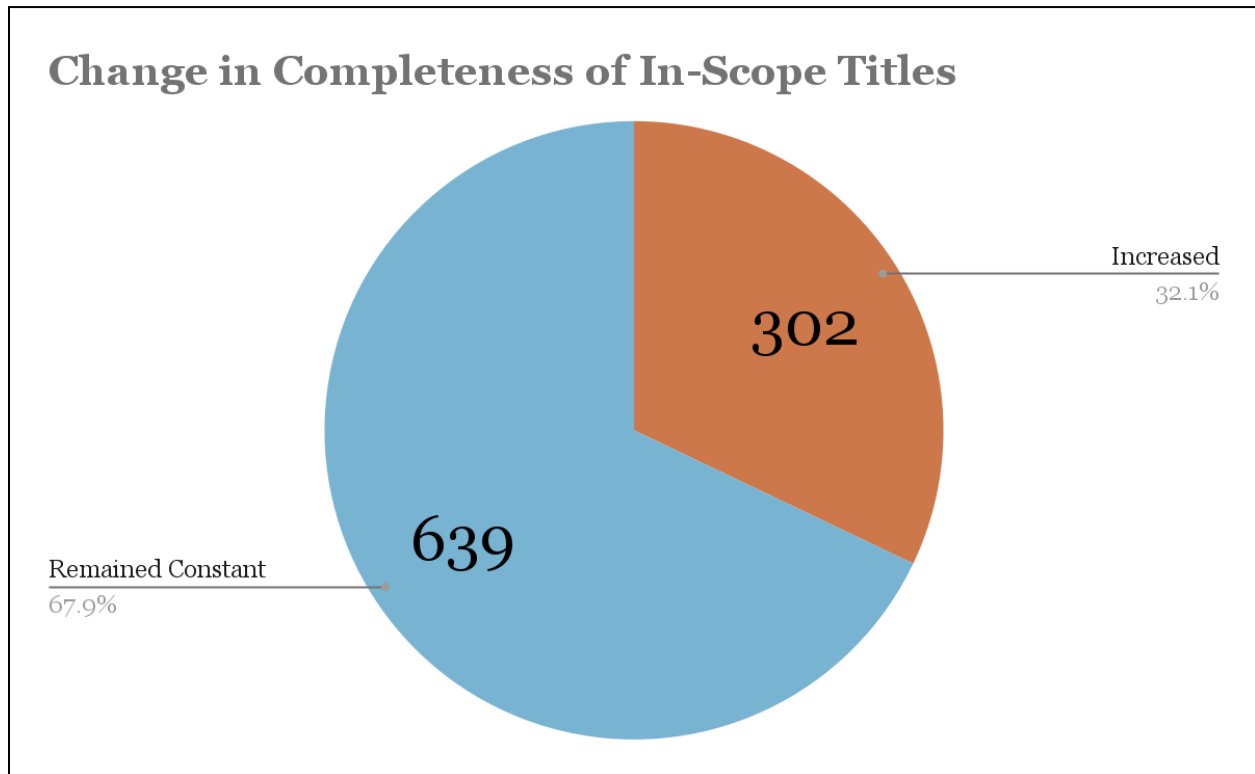
The pilot did have an impact on the completeness of titles archived by ASU as part of the WEST archived collection.

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<sup>4</sup> Volumes here means pieces in hand.

- 302 titles increased in completeness over the course of the pilot, which represents 28% of titles in scope<sup>5</sup>
- 47 titles reached 100% completeness over the course of the pilot, which represents approximately 5% of titles in scope

Figure 1. Change in Completeness of In-Scope Titles



4. Do the benefits of conducting a dedicated gap filling project (as measured in the above questions) balance with the effort and financial investment necessary to complete the tasks?

#### Cost-benefit - Volumes Added

The total WEST financial investment in the pilot was \$60,758. The total volumes added during the period of the pilot was 4,074. At the most basic level, this is an investment of \$15 per added volume.

<sup>5</sup> 150 titles were excluded from the total for these calculations as these titles had no opportunity for change (for example: the title had ceased publication prior to 2005 or 2015 and no volumes were identified as missing at the start of the pilot.) These titles were originally in scope because selections were made at the journal family level. However, within these journal families, some titles were found to be complete and therefore no action was needed.



This does not take into account the number of in-progress calls for holdings that will carry through beyond the immediate period of the pilot. We can expect at least some of these open calls for holdings to result in more volumes added after the pilot.

Overall, the return on investment was highest in extending archived holdings via additional local holdings.

Table 3. Summary of Volumes <sup>6</sup>Added per Method

Volumes Added to Pilot Journal Families during the Pilot (November 2022 - February 2025)			
Method	Volumes Added	Number of Titles Impacted	Number of External Libraries Involved
Extend archived holdings via the local collection	3,812	304	0 (ASU only)
Calls for holdings	119	3	1
Offers	143	46	5
<b>Grand Total</b>	<b>4,074</b>	<b>N/A</b>	<b>6</b>

### Cost-benefit - Local Staff Effort

It is important to understand that gap-filling is an intensive, and potentially long-term, process.

ASU staff examined every title associated with the journal families selected for the pilot.<sup>7</sup> For all 1,091 titles that were in scope for the pilot, ASU staff affirmed the persistent gaps and determined whether those gaps could be filled by additional local holdings or if they required a call for holdings.

68% of the titles required a call for holdings, which involved analyzing holdings at other WEST institutions and communication with those holding institutions.

In terms of the aggregate in-kind staff time devoted to this pilot, managing the calls for holdings is almost twice the amount of work as identifying local holdings and committing them.

### Operational Considerations

Arizona State University surfaced a number of operational and data-related challenges during the pilot, including:

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<sup>6</sup> Volume here means pieces in hand.

<sup>7</sup> This regularly includes identifying additional titles that WEST's collections analysis tool, AGUA, did not originally identify as part of the journal family.

### *Bibliographic challenges*

- Identifying bibliographic record updates since the initial 2005 or 2015 commitment, including title changes, new titles and ceased titles

### *Logistical challenges*

- Identifying which volumes had already been validated
- Combining data for newly identified missing volumes with legacy data for known missing volumes
- Using locally maintained data about previous calls for holdings to avoid re-requesting a title from the same library
- Contacting more libraries, including those that had not been contacted before or have declined to answer calls in the past
- Simultaneously conducting revisited calls for holdings and extending the local backfile for the pilot while also committing to a new set of journal families<sup>8</sup>

### *Data management challenges*

- Managing gap data in AGUA beginning in Cycle 13 after previously working with separately maintained data
  - Even with recent enhancements to AGUA (see Figure 2) there is still significant data manipulation that must take place outside of AGUA
  - AGUA has practical functionality as a tracking tool, but is not a live calls system
- Managing data across multiple different sources (ex: local spreadsheets, local data downloaded from an ILS, .csv files downloaded directly from AGUA, other spreadsheets created for ASU by the WEST Project Team)
  - Encountered problems in Google Sheets while attempting to connect all the different data sources to monitor and update validation, calls for holdings, metadata and statistics
  - Centralized data management would be easier in a more complex tool, like AirTable, with protected data and customized filters, views, and interfaces for all the different uses

*Figure 2. Call for Holdings management page in AGUA - deployed in Cycle 13 (year)*

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<sup>8</sup> In addition to the pilot titles, ASU committed and archived new medium & high risk titles during Cycles 12 & 13.

Western Regional Storage Trust | AGUA

Generate All Request Reports    Generate All Received Reports

OCLC Symbol    OCLC Number    Search

### Call for Holdings

This tool is used by Archive Builders to review their local holdings for committed Silver and Gold journals from all Archive Cycles and compare them against other WEST members' holdings. Builders use this interface to identify gaps and record requests to potential contributors.

Institution: California Digital Library

OCLC Symbol	Year	Archiving Cycle	Title Category	Requests
	2011	1	4	Select
			5	Select
			3	Select
	2012	2	4	Select
			5	Select

ASU also noted that, due to changing priorities and resource constraints common across academic libraries, significant time had passed since they were able to conduct a detailed review of serials records in their catalog. Additionally, at the time of the pilot, ASU did not have a dedicated serials cataloger. However, ASU was able to use this process as an opportunity to dedicate time to review records for a portion of the titles included in the pilot and increase discoverability.

## Recommendations

- Any operationalization of the pilot or future revisited gap-filling activities should focus on:
  - Building on additional local holdings to extend archived titles
  - Generally encouraging WEST members to make offers leveraging tools in AGUA and JRNLRevisited calls for holdings do not have a high enough return on investment to justify the considerable effort they require.
- In the event of operationalization of this pilot or future revisited gap-filling activities, the WEST Project Team should provide participants the required data in one unified spreadsheet to eliminate difficulties in managing disparate data sources.
- WEST should consider updating disclosure guidelines to strongly encourage or require Builders to commit to the entire run of the journal family when reviewing commitment proposals and subsequently add new volumes to the archived holdings so long as they continue to collect that title in print per the duration of their MOU with WEST.
- WEST should consider investigating the effectiveness of calls for holdings as a regular requirement for Archive Builders
  - There are recurring questions that arise around the calls for holdings
    - When to do a calls for holdings in the building process is a recurring question
    - How much effort is enough is also a recurring question

- b. The pilot outcomes raise other questions about how WEST might improve the calls for holdings strategy overall, for example:
  - i. Could a cohort of actively deselecting libraries that are able to send volumes to fill gaps be identified each year as invited participants in gap filling?
  - ii. Could Builders engage in a gap-filling year as they wrap up their active building activities?
  - iii. Can WEST generally change some of the expectations around calls to make the workload more reasonable and clear for Builders?
- 5. WEST should continue to invest in infrastructure (e.g., JRNL and AGUA) necessary for Builders to engage with and accept offers.
- 6. WEST should consider recommending that libraries submit all their serial bibliographic and holdings data during the data ingest for Cycles 16 & 17.
  - a. Per previous WEST guidance and practice, ASU does not submit records for unarchived holdings of titles that they have archived for WEST. Without this data, AGUA is not able to determine how much of the remaining backfile is available at ASU. A future version of this project would benefit from this data, as it would allow WEST to identify titles for which a Builder has considerable remaining holdings available for archiving versus titles for which they would need to conduct extensive calls for holdings to complete the backfile for the title.