JACS Program Assessment - 2023

Prepared by the Shared Print Strategy and Operations Teams
October 2023

Context

The Journal Archiving Campaign and Deduplication Service (JACS) was launched in 2015 as a means of accelerating the development of shared print journal archives and creating opportunities for the campuses to repurpose local space. The program has continued through annual campaigns since its launch in 2015. In summer 2023, JACS entered its eighth year. Over the life-time of the program, the Shared Print Teams have adapted and made targeted changes to the workflows and collection scope of the program. This program assessment in 2023[1] is triggered by the shifting degree of overlap in remaining on-campus serial collections,[2] accelerating space and resourcing challenges across the system, and the long run-time of JACS.

Areas of Investigation

- Impact and value to campus and RLF collection management
- Efficacy of the operational model and business model
- Opportunities for change or expansion

Instruments

- Survey to campus collections leaders (SCLG) and Shared Print Coordinators
- Regional Library Facility (RLF) resourcing and workflow review (quantitative and qualitative analysis in the Shared Print Operations Team [SPOT])
- Quantitative analysis (includes shipping, collection growth, what's left to retain)

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[1] 2023 JACS Program Assessment Plan

[2] The JACS 7 & 8 collections analysis revealed an overall shift in what's left to archive and advised that SPST, "Consider the ongoing utility of the current JACS model, for UC as well as in the context of the larger shared print community. Balance the established space reclamation goals of the JACS program with the ongoing priority to reduce duplication of effort across the shared print community as well as the emerging emphasis on preserving scarcely held titles and last copies" (February 2022, JACS 7 & 8 Collections Analysis Overview for the Shared Print Strategy Team, p. 10).

Summary Findings

Impact and value to campus and RLF collection management

- Coordinated pacing of archiving decisions, long-term preservation, and clearly disclosed holdings are perceived as the most successful benefits
- Improved discovery, equitable access, staff time savings, and space reclamation are perceived as the least successful benefits
- Receiving duplicates creates an opportunity to replace validated copies that have known condition or completeness issues, and recycling duplicates at the RLFs may mitigate local political sensitivity
- To date, systemwide space optimization made possible by the JACS program is significant, with over 15,000 linear feet reclaimed by transferring materials to the RLFs for consolidation and deduplication
- An additional 47,000 linear feet are eligible for reclamation based on current campus holdings of journals on the JACS 1-8 title lists
- There are significant opportunities to leverage the JACS title lists to deduplicate the RLF collections, freeing up valuable space for new deposits

Efficacy of the operational model and business model

- The most efficacious aspects of the operational model are centralized collections analysis and reporting
- The most challenging aspects of the operational model are those that introduce variation or require intensive and customized campus efforts
- One shipping service to address all deposit needs is preferred over having a specialized service for JACS
- Processing of legacy holdings at NRLF is not covered by the current business model
- Deduplication is only sustainable with the yearly support from CDL and leveraging allocation
- There are some activities that may be duplicative, including adding affirmative "missing statements" to records and maintaining both regular deposit allocation usage and JACS allocation usage tracking sheets

Opportunities for change or expansion

- State Documents and widely-held monographs are the highest priority content areas for expanding JACS
- The campuses see opportunities to add new benefits through digitization and advocacy to recognize shared collections in ARL/ACRL data and ranking
- There is a question of whether the model of consolidation of shared print runs at a single RLF is still necessary and serving UC well
- The remaining high-overlap titles eligible for inclusion on future JACS list represent less than 10% of the overall remaining eligible collections; when taking into account Rosemont archiving status, high-overlap titles account for only 2.5% of the remaining eligible collections
- There are significant opportunities for further work consolidating more scarcely held titles at the RLFs

Recommendations

Table 1. Priority Recommendations

ID	Timing	Priority Level	Recommendation	Sub-recommendations	Areas of Investigation	Instruments
1	Immediate	Priority 1	In the short term, affirm and routinize the practice of counting JACS duplicates against allocation		Operational and business model	RLF evaluation
2	Near-term (implement in FY24-25)	Priority 1	For JACS 9 (FY24-25), complete selection of high overlap content	A. Do not prioritize titles redundant with Rosemont retentions B. As standard JACS capacity allows, include title nominations and scarce content	Opportunities for change	Quantitative analysis
3	Near-term (implement in FY24-25)	Priority 1	Scope and budget for future NRLF JACS legacy processing work		Operational and business model	RLF evaluation
4	4A: Immediate 4B: Near-term (implement in FY24-25)	Priority 1	Expand and refine centrally produced data analyses and reports	A. Continue to update JACS titles lists in Alma Analytics and publicize the availability of those reports B. Investigate the opportunity to build an 'RLF checker' capability or tool to expose RLF holdings information to library staff users in other Institution Zones and facilitate streamlined RLF duplicate checking by campus library staff	Impact and value; Operational and business model; Opportunities for change	Campus survey; Quantitative analysis
5	Mid-term (implement in FY25-26)	Priority 1	Expand and refine the JACS model and workflows to include California State Documents	A. Consider what tools and infrastructure will effectively support this category of content (e.g., AGUA, Alma, etc.) B. Consider what additions or changes to the JACS model and workflows will best support this category of content	Opportunities for change	Campus survey; Quantitative analysis
6	Mid-term (implement in FY25-26)	Priority 1	Investigate establishing a single shared systemwide shipping service for all campus deposits to the RLFs		Operational and business model	Campus survey; Quantitative analysis

ID	Timing	Priority Level	Recommendation	Sub-recommendations	Areas of Investigation	Instruments
7	7A: Near-term (implement in FY24-25) 7B: Near-term (implement in FY24-25) 7C: Mid-term (implement in FY25-26)	Priority 1	Where possible, incorporate digitization workflows into current and future UCL shared print initiatives	A. As a near-term exploration, consider routing all JACS duplicates from NRLF (and perhaps SRLF as well) to Internet Archive B. For all future shared print initiatives, ask: what is the role of digitization and digital surrogates in this initiative? (This will require consultation with the Digital Preservation Leadership Group and CDL Mass Digitization Team.) C. Outline a unified theory of print-digital preservation actions	Opportunities for change	Campus survey
8	8A: Near-term (implement in FY24-25) 8B: Mid-term (implement in FY25-26)	Priority 1	Support deduplication at the RLFs to maximize high density space and resources	A. Develop a pilot project to leverage the JACS title lists to deduplicate holdings across the two RLF locations B. Investigate further harmonization of deduplication practices between the RLFs (e.g. empower the RLFs to discard all duplicates, not just JACS)	Impact and value Operational and business model	Quantitative analysis RLF evaluation
9	N/A (reconvening the RCPT involves decision-makers beyond SPST)	Priority 1	Pursue system, service, and/or workflow changes that promote equitable discovery of and access to shared content in the RLFs	Reconvene the RLF Configuration Project Team with an explicit charge to prioritize equal systemwide discovery and access in their assessment and recommendations	Impact and value	Campus survey
10	TBD	Priority 2	Investigate whether it is possible to combine the JACS allocation usage tracking sheets and separate regular deposit allocation usage tracking systems into one, unified RLF allocation tracking resource (also consider the role of Alma NZ statistics)		Operational and business model	RLF evaluation
11	TBD	Priority 2	Articulate the benefits and considerations of embracing a new shared print model in UC wherein title runs may be retained in a single RLF or be retained across both RLFs		Opportunities for change	RLF evaluation

ID	Timing	Priority Level	Recommendation	Sub-recommendations	Areas of Investigation	Instruments
12	TBD	Priority 2	Consider how best to support campuses make decisions about consolidating scarce or unique content in the RLFs	A. Consider what tools and infrastructure will effectively support these categories of content (e.g., AGUA, Alma, etc.) B. Consider what additions or changes to the JACS model and workflows will best support these categories of content	Opportunities for change	Quantitative analysis
13	TBD	Priority 2	Explore broadening the scope of the bi-monthly shared print coordinators meeting (requires discussion with the Shared Print Coordinators and SPST); possibly write up a scoping document		Opportunities for change	RLF evaluation
14	TBD	Priority 3	Clarify the opportunities to address lowest-ranking benefits through improved program design and/or tracking mechanisms and report methodologies		Impact and value	Campus survey
15	N/A (dependency with RLF Operations Investigations)	Priority 3	Consider whether there are opportunities in the future RLF resourcing framework to build in sustainable deduplication support for campuses (i.e. investigate opportunities to sustainably return to duplicates not counting against an individual campus's allocation)		Impact and value	Campus survey; RLF evaluation
16	TBD	Priority 3	Analyze the benefits, costs, and community standards of including affirmative "missing statements" based on physical validation outcomes		Operational and business model	RLF evaluation
17	TBD	Priority 3	Consider the feasibility and benefit of pursuing other formats and incorporate these formats into future strategic visioning for UCL Shared Print (by expanding JACS or by other means)		Opportunities for change	Campus survey

Detailed Findings & Discussion

How this report is organized

The report is organized in three main sections by instrument: campus survey, RLF resourcing and workflows, and quantitative analyses. Each section begins with conclusions and recommendations, which are organized by three thematic areas of investigation: impact and value to campus and RLF collection management; efficacy of the operational model and business model; and opportunities for change.

Campus survey results

The campus survey was distributed to the Shared Content Leadership Group (SCLG) and the Shared Print Coordinators (previously known as the JACS Coordinators). Both these groups are representative of all 10 campuses and include individuals with strategic and operational expertise and responsibility for physical collections. Campus SCLG representatives and the Shared Print Coordinators were asked to consult and submit one answer on behalf of their campus. All campuses submitted a response to the survey.

Campus survey results - conclusions & recommendations

Impact and value to campus and RLF collection management
- The majority of respondents believe that the defined benefits of the JACS program have ongoing importance
- The most successful benefits are those that relate to the greater good or decision-making early in the lifecycle of shared print
- The least successful benefits are those that manifest as outcomes of completing the work
- There is an open question of whether some of the least successful benefits (including evidence of space reclamation and saving staff time) will be most effectively addressed through changes that create more opportunities for that benefit to manifest or through changes to how the benefit is tracked and reported (said another way: are these program design problems or a communication problem)
- **Recommendations:**
  - Priority 1: Pursue system, service, and/or workflow changes that promote equitable discovery of and access to shared content in the RLFs.
    - Reconvene the RLF Configuration Project Team with an explicit charge to prioritize equal systemwide discovery and access in their assessment and recommendations.
  - Priority 3: Consider whether there are opportunities in the future RLF resourcing framework to build in sustainable deduplication support for campuses (i.e. investigate opportunities to sustainably return to duplicates not counting against an individual campus's allocation).
  - Priority 3: Clarify the opportunities to address lowest-ranking benefits through improved program design and/or tracking mechanisms and report methodologies.

Efficacy of the operational model and business model
- The most efficacious aspects of the operational model are centralized collections analysis and reporting

- The most challenging aspects of the operational model are those that introduce variation or require intensive and customized campus efforts
- One shipping service to address all deposit needs is preferred over having a specialized service for JACS
- **Recommendations:**
  - Priority 1: Investigate establishing a single shared systemwide shipping service for all campus deposits to the RLFs.
  - Priority 1: Expand and refine centrally produced data analyses and reports.
    - Continue to update JACS titles lists in Alma Analytics and publicize the availability of those reports
    - Investigate the opportunity to build an 'RLF checker' capability or tool to expose RLF holdings information to library staff users in other Institution Zones and facilitate streamlined RLF duplicate checking by campus library staff

Opportunities for change or expansion

- State Documents and widely-held monographs are the highest priority content areas for expanding JACS
- Reference collections are the lowest priority content area for expanding JACS
- The campuses see opportunities to add new benefits through digitization and advocacy to recognize shared collections in ARL/ACRL data and ranking
- **Recommendations:**
  - Priority 1: Expand and refine the JACS model and workflows to include California State Documents.
    - Consider what tools and infrastructure will effectively support this category of content (e.g., AGUA, Alma, etc.)
    - Consider what additions or changes to the JACS model and workflows will best support this category of content
  - Priority 1: Where possible, incorporate digitization workflows into current and future UCL shared print initiatives.
    - As a near-term exploration, consider routing all JACS duplicates from NRLF (and perhaps SRLF as well) to Internet Archive
    - For all future shared print initiatives, ask: what is the role of digitization and digital surrogates in this initiative? (This will require consultation with the Digital Preservation Leadership Group and CDL Mass Digitization Team)
    - Outline a unified theory of print-digital preservation actions
  - Priority 3: Consider the feasibility and benefit of pursuing other formats and incorporate these formats into future strategic visioning for UCL Shared Print (by expanding JACS or by other means).

Participation in JACS

Four campus respondents, whose records indicate they have not deposited material to the RLFs through the JACS program in several years, were asked about their primary reason(s) for not participating.

Figure 1. Reasons for Non-participation (*n = 4*)

Value	Percent
Lack of staffing capacity	100%
Higher priority projects took precedent	75%
Allocation (e.g. limits or need to prioritize other content for the RLFs)	50%
Other: Pandemic backlogs, leadership changes	25%

All campuses indicated a lack of staffing combined with higher priority projects and allocations playing a large role in their decision-making.

All campuses were asked about their plans to participate in the FY2023-24 JACS program. At least half the campuses plan to participate this fiscal year.

Figure 2. Anticipated Participation in FY23-24 (*n = 10*)
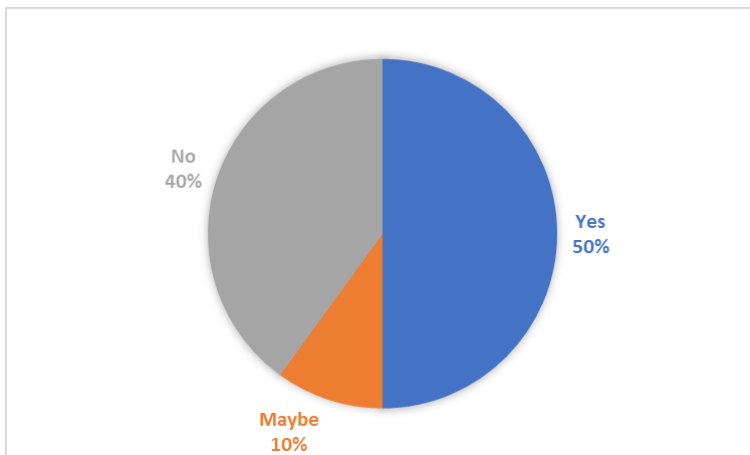
Benefits of JACS

Respondents rated the success of the JACS program in achieving defined benefits.[3] Most respondents reported that the project was 'very successful' or 'somewhat successful' at achieving the benefits listed in the survey. Two of the response options ('Saves substantial staff time at campuses by relieving staff of detailed holdings reviews and complex volume-level decisions about what to deposit and what to discard' and 'Provides evidence of space reclamation progress across the UC system') received 'somewhat unsuccessful' ratings; no response options were rated as 'unsuccessful.'

The position of 'Provides evidence of space reclamation progress across the UC system' as the last-ranking benefit may be interpreted and acted upon along several paths. The language of the benefit statements makes it difficult to know whether responses were made based on a lack of that general value proposition (i.e. opportunities for space reclamation) or a lack of effective tracking mechanisms to demonstrate *evidence* of space reclamation for communication purposes. Depending on follow-up discussions with campus representatives, action may be prioritized to increase the opportunities for space reclamation or refine tracking mechanisms and reporting methodologies.

Overall, the most highly ranked benefits describe aspects of the service that support the greater good (e.g., long-term preservation) and decision-making early in the lifecycle of shared print (e.g., analysis and coordinated decision-making). The lowest ranked benefits appear to have a common thread in the direct outcomes the service

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[3] Benefits were drawn from the original JACS proposal (2014) with a few additional benefits added under the advice of the Shared Print Strategy Team.

has for individual campuses in the ongoing management of their resources and in providing service to users (e.g., space reclamation, discoverability, access, and reclaimed staff time). Either these benefits have not been as successful as others; or they are not effectively measured and communicated.[4]

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[4] The JACS Allocation Usage Statistics are an existing tracking mechanism for space reclamation, but are likely used mostly to determine how much allocation remains for a campus. Discoverability and accessibility have not been systematically tracked for JACS. In terms of reclaimed staff time, after JACS 1 some campuses reported that the JACS workflow to "ship all holdings" saved 30-50% of regular processing time.

Table 2. Campus Rating of JACS Success in Achieving Defined Benefits (*n = 10*)

Benefit	Very successful	Somewhat successful	Neutral/Do not have an opinion	Somewhat unsuccessful	Unsuccessful	Rank
Provides an annual, coordinated approach to ensure the pace of archiving decisions for the UC Libraries' shared collections.	6	4	0	0	0	1
Long term preservation of the scholarly record in environmentally controlled conditions.	6	3	1	0	0	2
Users benefit from more complete, clearly disclosed holdings that are held at one location (one RLF).	6	2	2	0	0	3
Provides systemwide collections analysis for unarchived journal backfiles and a holistic approach for bibliographers and collection managers to make collaborative, informed decisions about what to preserve.	4	4	2	0	0	4 (tied)
Demonstrated success of collaborative solutions for print management.	4	4	2	0	0	4 (tied)
Offers a coordinated approach to participation in multiple shared print journal projects, through coordinated title lists.	4	3	3	0	0	6
Improved systemwide discovery through union catalogs.	4	2	4	0	0	7 (tied)
Equitable access from a central location (the RLFs).	4	2	4	0	0	7 (tied)
Saves substantial staff time at campuses by relieving staff of detailed holdings reviews and complex volume-level decisions about what to deposit and what to discard.	5	2	1	2	0	7 (tied)
Provides evidence of space reclamation progress across the UC system.	3	3	3	1	0	10

Nine of the ten campuses noted that all of the benefits listed in the survey are still important. The tenth campus stated that some benefits are still important, but noted that recent staff turnover both in leadership and within the team working directly on the JACS project has created a temporary gap in knowledge about the project and its impacts on that campus.

One campus reported an additional benefit not stated in the survey: participation in JACS has created staff buy-in for and increased awareness of space reclamation projects.

Respondents were also asked if there are other benefits they would like to see UC Libraries' Shared Print Initiatives achieve. Two other benefits surfaced in response to this question: (1) digitization and (2) recognition of shared collaboration in the ARL/ACRL data and ranking. Responses to this question also amplified the importance of assessment, space alleviation, discoverability, and the overall power of an intentionally built and preserved collective collection.

Effectiveness of JACS Resources & Workflows

Respondents also rated the effectiveness of JACS workflows and resources. Responses were fairly mixed: response options were rated as 'highly effective' and as 'neutral/do not have an opinion' at similar rates. Two response options ('Local review of titles lists and decision-making to send titles to RLFs (locally defined)' and 'Having a special JACS shipping service (i.e. separate from shipping for regular deposits)') received 'somewhat ineffective' ratings; no response options were rated as 'ineffective.'

The highest rated workflows and resources are all related to centralized data analysis and reporting (e.g., title lists, centralized collections analysis, and allocation usage reports). The lowest ranked workflows and resources are aspects of the service that introduce variation or require intensive and customized campus efforts (e.g., navigating a special shipping service, local review of lists, pulling physical items).

Table 3. Campus Rating of JACS Workflows and Resources (*n = 10*)

Workflow or Resource	Highly Effective	Somewhat Effective	Neutral/Do not have an opinion	Somewhat Ineffective	Ineffective	Rank
Title lists	5	3	2	0	0	1
Centralized collections analysis	5	2	3	0	0	2 (tied)
Allocation usage reports	6	0	4	0	0	2 (tied)
Submitting data for AGUA analysis	4	3	3	0	0	4
Bi-monthly Shared Print Coordinators meetings	3	4	3	0	0	5
Title nominations	3	3	4	0	0	6 (tied)
Decision-making at the title level ("ship all holdings")	3	3	4	0	0	6 (tied)
Iron Mountain shipping service	3	3	4	0	0	6 (tied)
Pulling physical items and packing them for shipping	3	2	5	0	0	9
Local review of titles lists and decision-making to send titles to RLFs (locally defined)	3	2	4	1	0	10
Having a special JACS shipping service (i.e. separate from shipping for regular deposits)	2	3	4	1	0	11

Six respondents provided additional information about challenges their campuses have experienced with JACS workflows. Five of these noted that most challenges stem from local circumstances and are independent of the overall JACS project. One respondent reiterated a preference for a single vendor for shipping services rather than maintaining a separate shipping service for JACS. A respondent also noted frustration that JACS volumes are

counted against their annual RLF space allocations[5].

What's Next

The majority of UC campuses believe that we should continue to prioritize analysis and consolidation for lower overlap content. One respondent qualified their support for this path: "Yes for short term (UC-focused), longer term only if not deposited in other UC-affiliated shared print memberships."

Figure 3. Should JACS continue to prioritize the analysis and consolidation in the RLFs of remaining (lower overlap) serials and journals across the system? (n = 10)
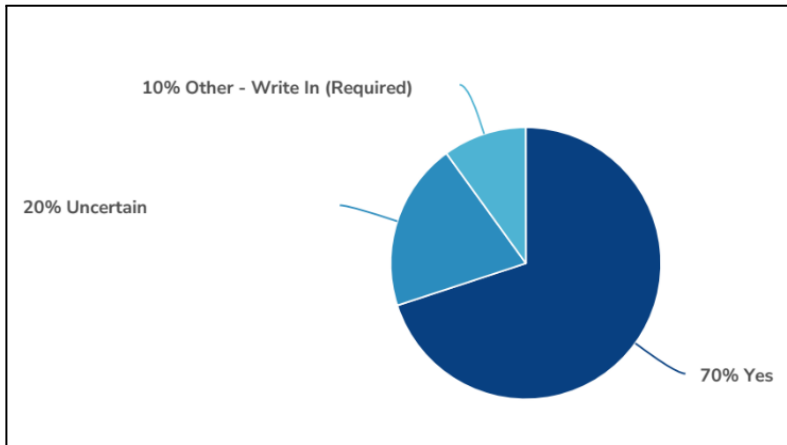
Table 4. Campus Priority Ranking of Format Types for Expanding the JACS Scope (*n = 10*)

Format Type	High Priority	Mid-level Priority	Low Priority	No Interest	Rank
State documents	5	5	0	0	1
Widely held monographs	5	2	3	0	2
Microformats	4	3	2	1	3
Unique or scarcely-held monographs (circulating, not Special Coll.)	4	2	2	2	4
Media (A/V)	3	2	4	1	5
Reference collections	0	4	4	2	6

Respondents were also asked to provide input on whether other formats would be of interest for potential expansion of the JACS program scope. In addition to the formats ranks in Table 3, three respondents noted that they would be interested in including musical scores, although one noted that this is an area of local interest and may not be a high priority for depositing in an RLF. Three respondents expressed interest in maps, with one respondent noting that their local map collections are held in Special Collections and may not be eligible for JACS. One respondent expressed interest in both aerial photographs and 35mm film. Finally, one respondent added low-use, non-English collections as a content area and introduced the possibility of first focusing on de-duplicating content between the RLFs, beginning with journals.

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[5] Beginning in July 2021, the Shared Library Facilities Board (SLFB) approved a temporary measure to count JACS duplicates against campus allocations, in order to account for staffing and systems impacts on the RLFs' capacity. That practice continues through the present.

When asked for other comments or suggestions on JACS or UC Libraries' wider shared print efforts, respondents generally expressed support of shared print, including participation in nationwide programs. Respondents also reiterated a concern around RLF allocations.

RLF resourcing & workflows evaluation

The Shared Print Project Team worked with the Shared Print Operations Team (SPOT) to coordinate light-weight quantitative analysis and structured discussions. This part of the assessment surfaced opportunities, benefits, and challenges of JACS resourcing and workflows from the RLF operational perspective.

RLF resourcing & workflows - Conclusions & recommendations

Impact and value to campus and RLF collection management

- Receiving duplicates creates an opportunity to replace validated copies with known condition or completeness issues. Receiving and recycling duplicates at the RLFs may ameliorate some local political sensitivity
- **Recommendation**:
  - Priority 3: Consider whether there are opportunities in the future RLF resourcing framework to build in sustainable deduplication support for campuses (i.e. investigate opportunities to sustainably return to duplicates not counting against an individual campus's allocation).

Efficacy of the operational model and business model

- Processing of legacy holdings (records and validation of physical materials) at NRLF is not covered by the current business model
- Deduplication is only sustainable with the yearly support from CDL and leveraging allocation
- There are some activities that may be duplicative, including adding affirmative "missing statements" to records and maintaining both regular deposit allocation usage and JACS allocation usage tracking sheets
- **Recommendations**:
  - Priority 1: Scope and budget for future NRLF JACS legacy processing work.
  - Priority 1: In the short term, affirm and routinize the practice of counting JACS duplicates against allocation.
  - Priority 1: Support deduplication at the RLFs to maximize high density space and resources
    - Develop a pilot project to leverage the JACS title lists to deduplicate holdings across the two RLF locations
    - Investigate further harmonization of deduplication practices between the RLFs (e.g. empower the RLFs to discard all duplicates, not just JACS)
  - Priority 2: Investigate whether it is possible to combine the JACS allocation usage tracking sheets and separate regular deposit allocation usage tracking systems into one, unified RLF allocation tracking resource (also consider the role of Alma NZ statistics).
  - Priority 3: Analyze the benefits, costs, and community standards of including affirmative "missing statements" based on physical validation outcomes.

Opportunities for change or expansion

- Bi-monthly shared print coordinators meeting could support broader communication and knowledge-sharing between RLF and campus staff, as well as building a sense of shared ownership
- There is a question of whether the model of consolidation of shared print runs at one RLF is still necessary and serving UC well
- **Recommendations**:
    - Priority 2: Explore broadening the scope of the bi-monthly shared print coordinators meeting (requires discussion with the Shared Print Coordinators and SPST); possibly write up a scoping document
    - Priority 2: Articulate the benefits and considerations of embracing a new shared print model in UC wherein title runs may be retained in a single RLF or be retained across both RLFs

RLF Resourcing

The JACS business model explicitly outlines resourcing expectations for three areas of activity:

1. Shipping to the RLFs (in-region and cross-region), which is supported by a CDL-funded and administered shipping service (approximately $21,000 per year).
2. Accession of JACS items, which is funded by campus allocations (assumed to include validation and record updates).[6]
3. Deduplication of JACS items, which is funded by a CDL subsidy of $5,000 per RLF.

The original JACS operations and business model stipulates that duplicates are not counted against a campus's allocation. Based on workflows and capacity at that time, the CDL subsidy of $5,000 per RLF was sufficient to cover deduplication work. However, system migrations (CaiaSoft and Alma SILS) in combination with staffing shortages that followed COVID-19 impacts have affected workflows to the extent that, beginning in July 2021, the Shared Library Facilities Board (SLFB) approved JACS duplicates being counted against campus allocations.[7] That practice is continuing through FY23-24. **At this stage in the evolution of the work, the RLFs assess that the $5,000 provided respectively to each RLF for deduplication processing is sufficient for covering the deduplication and recycling services only in combination with allocation support.**

The original business model accounts for new accessions and deduplication of JACS content from the campuses. However, the business model does not account for holdings previously deposited to the RLFs. In the case of SRLF, this is not a significant burden. Preparing existing SRLF holdings in anticipation of JACS deposits requires updates to the titles' records, but no additional physical validation because SRLF has historically validated accessioned material at the issue-level. In the case of NRLF, it is necessary to complete required physical validation work for JACS titles already present in the facility - known as "legacy" materials. That work is not covered by any JACS resourcing stream (allocation or otherwise). **Over the course of eight years (or cycles), NRLF has processed 54,102 volumes on site in advance of JACS deposits from campuses. NRLF completed a cost analysis on this specific**

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[6] "The Operations team recommends using existing campus allocations to cover the costs of storage for volumes added to the RLFs. After review it was decided that the additional disclosure work involved with accessioning items into the SP JAC collection can be accommodated within the current allocation model" ([Print Journal Archiving Campaign and De-Duplication Service Proposal](#), 2014, p.9).

[7] RLF Allocation Proposal for July - December 2021 - approved by SLFB on June 29, 2021.

work and estimates the total cost to be $129,748 or an average of $16,218 per year[8]. The estimated per volume cost for this category of materials, as of JACS 8, is estimated to be $2.78.[9]

JACS Workflows & the RLFs

RLF staff and the Shared Print Project Team engaged in two focused discussions in May and April 2023 to review how effective JACS workflows and resources are for the RLFs. Discussions followed a *Plus (what is working well)-Delta (what could change for the better)* format.

Key Findings

- **Miscellaneous**
  - Perception of continued campus preference for 'in-region' deposit.
- **Centralized collections analysis**
  - *Opportunity* - Consider the opportunity to shift from the original principle of one consolidated run at a single RLF to a consolidated run that may be held across both RLFs.
  - Observation that content is not always deposited to the RLFs explicitly as JACS because not all title changes and holdings are captured by the systemwide analysis or the campus is not aware they are depositing JACS-eligible materials.
- **Decision-making at the title level ("ship all holdings")**
  - *Opportunity* - Consider the opportunity to harmonize and streamline deduplication practices and policies across the system and content areas (i.e., the RLFs are empowered to recycle all duplicates received in deposits and all such work is supported by allocations or some other method).
    - Receiving duplicates creates an opportunity to replace validated copies that have known condition or completeness problems. Receiving and recycling duplicates at the RLFs may ameliorate some local political sensitivity.
    - Currently, JACS is equivalent to regular deposits in that processing duplicates counts against a library's allocation. There are various agreements in place between the RLFs and specific campuses as to whether duplicates are automatically returned to the campus or discarded.
- **Leveraging a separate shipping service for JACS**
  - This is not a problem for either RLF.
  - Theoretically, it would be simpler to have fewer shipping providers and contact points.
- **Physical validation of JACS items**
  - Overall, the RLFs are on a path of harmonization with the emerging practice being validation at the issue level for ALL deposits (for JACS, NRLF validates initially at the volume level to check for duplicates).
- **Record updates for JACS holdings**
  - Indicating missing volumes in the records is a challenge for *all* deposits.
  - *Opportunity* - Consider whether recording affirmative "missing" statements in disclosure notes are returning value that justifies the effort of including them.

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[8] There has been a downward trend in overall cost aligned with a downward trend in the number of volumes deposited, but the per item cost is going up.
[9] Source Data and Analysis compiled by NRLF staff.

- **Allocation usage reports**
  - *Opportunity* - Consider whether allocation usage reports are duplicative with existing, separate NRLF and SRLF allocation reports.
- **Bi-monthly Shared Print Coordinators meetings**
  - *Opportunity* - Consider the opportunity to further expand the scope of these meetings to build more communication lines between the RLFs and the campuses to support all deposits and collections housed at the RLFs. This is, among other practical benefits, an opportunity to socialize the idea that all campuses have a stake in the whole of persistent collections at the RLFs, not just those specifically designated as shared print.

Quantitative analysis

In addition to the qualitative feedback gathered from the campuses and the RLFs, the CDL Shared Print Project Team also performed quantitative analyses of the JACS shipping service, impacts on campus collection management made possible through the JACS program, and the remaining collections that are eligible for inclusion on future JACS title lists.

Quantitative analysis - conclusions & recommendations

Impact and value to campus and RLF collection management

- All campuses that hold print journals have participated in JACS to some degree over the lifetime of the program
- To date, systemwide space savings made possible by the JACS program are significant, with over 16,000 linear feet reclaimed by transferring materials to the RLFs for consolidation and deduplication
- An additional 47,000 linear feet are eligible for reclamation based on current campus holdings of journals on the JACS 1-8 title lists
- There are significant opportunities to leverage the JACS title lists to deduplicate the RLF collections, freeing up valuable space for new deposits
- **Recommendations**:
  - Priority 1: Expand and refine centrally produced data analyses and reports.
    - Continue to update JACS titles lists in Alma Analytics and publicize the availability of those reports
    - Investigate the opportunity to build an 'RLF checker' capability or tool to expose RLF holdings information to library staff users in other Institution Zones and facilitate streamlined RLF duplicate checking by campus library staff
  - Priority 1: Support deduplication at the RLFs to maximize high density space and resources
    - Develop a pilot project to leverage the JACS title lists to deduplicate holdings across the two RLF locations
    - Investigate further harmonization of deduplication practices between the RLFs (e.g. empower the RLFs to discard all duplicates, not just JACS)

Efficacy of the operational model and business model

- Maintaining a standalone shipping service dedicated to the JACS program presents opportunities for systemwide benefits, but also introduces a layer of complexity to operations that is less desirable

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- **Recommendation**:
  - Priority 1: Investigate establishing a single shared systemwide shipping service for all campus deposits to the RLFs.

Opportunities for change or expansion

- The remaining high-overlap titles eligible for inclusion on future JACS list represent less than 10% of the overall remaining eligible collections; when taking into account Rosemont archiving status, high-overlap titles account for only 2.5% of the remaining eligible collections
- There are significant opportunities for further work consolidating more scarcely held titles at the RLFs
- **Recommendations**:
  - Priority 1: For JACS 9 (FY24-25), complete selection of high overlap content.
    - Do not prioritize titles redundant with Rosemont retentions
    - As standard JACS capacity allows, include title nominations and scarce content
  - Priority 1: Expand and refine the JACS model and workflows to include California State Documents.
    - Consider what tools and infrastructure will effectively support this category of content (e.g., AGUA, Alma, etc.)
    - Consider what additions or changes to the JACS model and workflows will best support this category of content

JACS Shipping Service

To support campus participation in JACS, CDL contracts with a vendor to provide shipping services for transferring JACS materials to the RLFs at no cost to the campuses. Since 2019 CDL has contracted with Iron Mountain to provide this service. As one component of program assessment, the Shared Print Analyst analyzed usage of the Iron Mountain shipping service to answer the question: Are we maximizing the subscription shipping service?

Conclusions

Maintaining a standalone shipping service dedicated to the JACS program presents opportunities for systemwide benefits as well as operational challenges for campuses and the CDL Shared Print Team. Campus survey responses reflect a fairly neutral posture on the overall effectiveness of Iron Mountain's shipping service, but having a special JACS shipping service (i.e. separate from shipping for regular deposits) is rated as the least effective aspect of the JACS program. While the survey did not gather significant additional feedback to nuance this rating, it may be that logistical requirements for using the service, including routing all requests through the CDL Shared Print team rather than submitting them directly to Iron Mountain as well as the relatively long lead time between submitting the request and the completion of the shipment, create barriers to taking full advantage of this benefit.

Iron Mountain Shipping Workflow

The Iron Mountain shipping service is coordinated centrally by the CDL Shared Print project team. The CDL Shared Print Analyst gathers shipping requests from the campuses on a monthly basis and conveys these to Iron Mountain representatives, who in turn schedule and execute the shipments. Usage of the shipping service is tracked by the CDL Shared Print Analyst, allowing longitudinal analysis.

Use of the Iron Mountain JACS Shipping Service

The service contract defines a specific number of long distance (cross-regional) and local (intra-regional) shipments that are available. Long distance shipments can be converted to local and vice versa. Because these two shipment types are leveraged within the service, use of the JACS shipping service is analyzed below in two ways: use of the service as measured by requests (regardless of shipment type), and use of the service as measured by shipments (normalized to convert all long distance shipment requests to local to support clearer analysis of cost and capacity).

*Figure 4.* Use of Iron Mountain Shipping Service by calendar year[10]
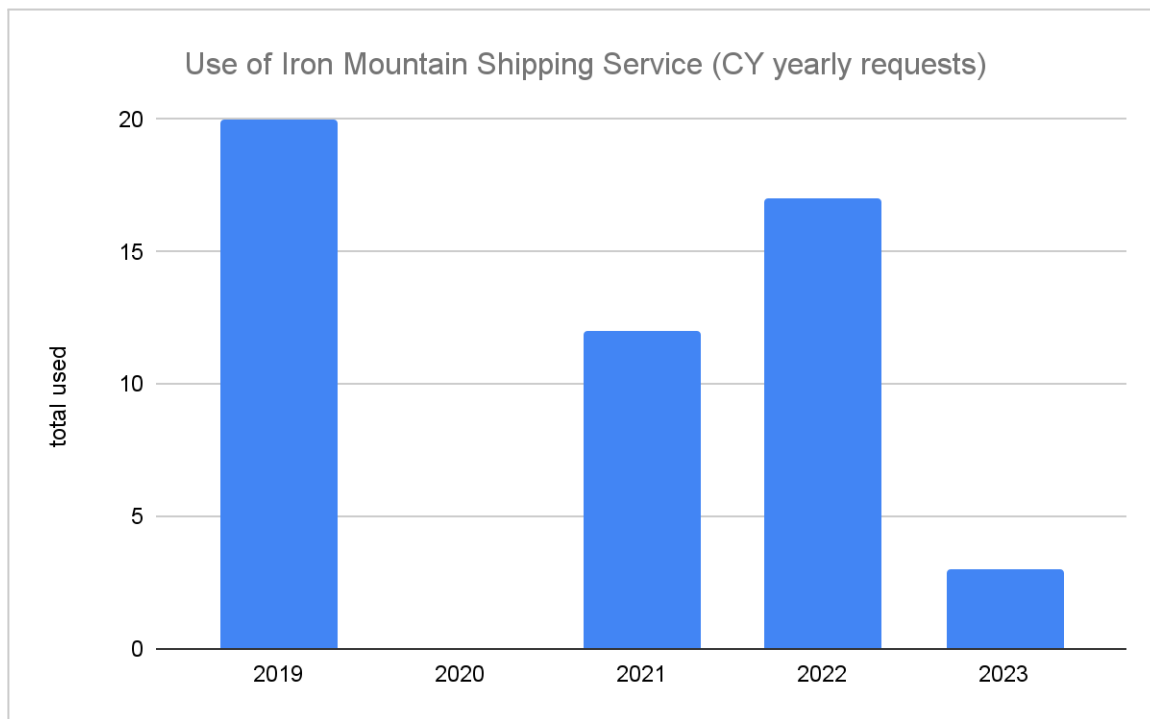
Unsurprisingly, demand for the JACS shipping service was nonexistent during 2020. One shipment was picked up by Iron Mountain in March 2020, but delivery was not completed until February 2021 (this shipment is counted in the 2021 total in Figure 4). Additionally, in 2021 the JACS shipping service was paused from June through August while all campuses and RLFs focused on the SILS migration; campuses and RLFs also saw reduced capacity for participation in JACS in the second half of 2021, even after the shipping service resumed, due to local post-migration workloads. Shipping resumed to NRLF in September 2021 and to SRLF in January 2022.

Even with these yearly variations, use of the service on a monthly basis follows a predictable pattern based on the academic year. Demand for the service typically dips during the summer and winter as well as at the beginning of academic sessions, with peaks of activity in the middle of the fall and spring academic sessions.

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[10] All requests for the Iron Mountain shipping service placed so far in calendar year 2023 were for transferring non-JACS materials to NRLF. For the past several years, the SPST has opened up use of the JACS shipping service to non-JACS deposits to the RLFs in the final months of the service period to both ensure UC is leveraging the full capacity of the service (or as much as possible) and to provide an additional benefit to campuses to support their work building systemwide collections in the RLFs. These non-JACS shipping requests are included in this analysis to ensure a complete picture of use of the service.

*Figure 5.* Requests for Iron Mountain shipments by month (by fiscal year)
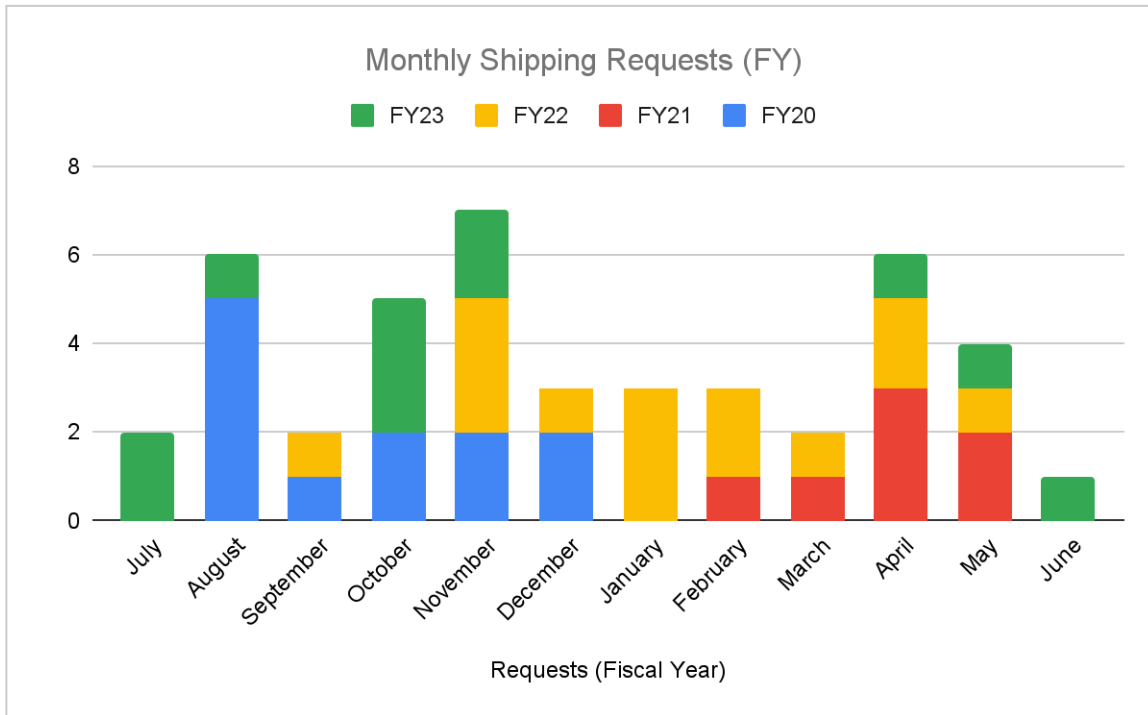
Demand for local and long distance shipping has varied considerably over the years, though there is a larger demand for local (intra-regional) shipping in most fiscal years.

Figure 6. Local vs long distance shipping requests (by fiscal year)
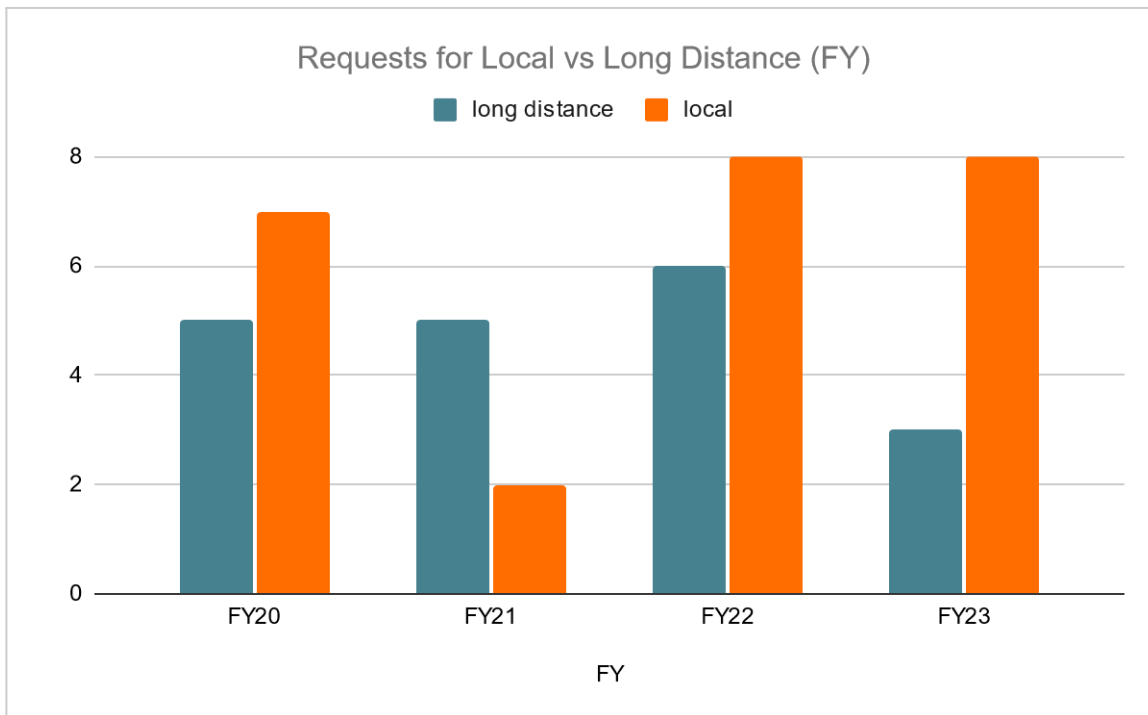
The JACS shipping service has not been used to its full capacity from FY20 through FY23.[11]

*Figure 7.* Percent of available shipments used (by fiscal year)
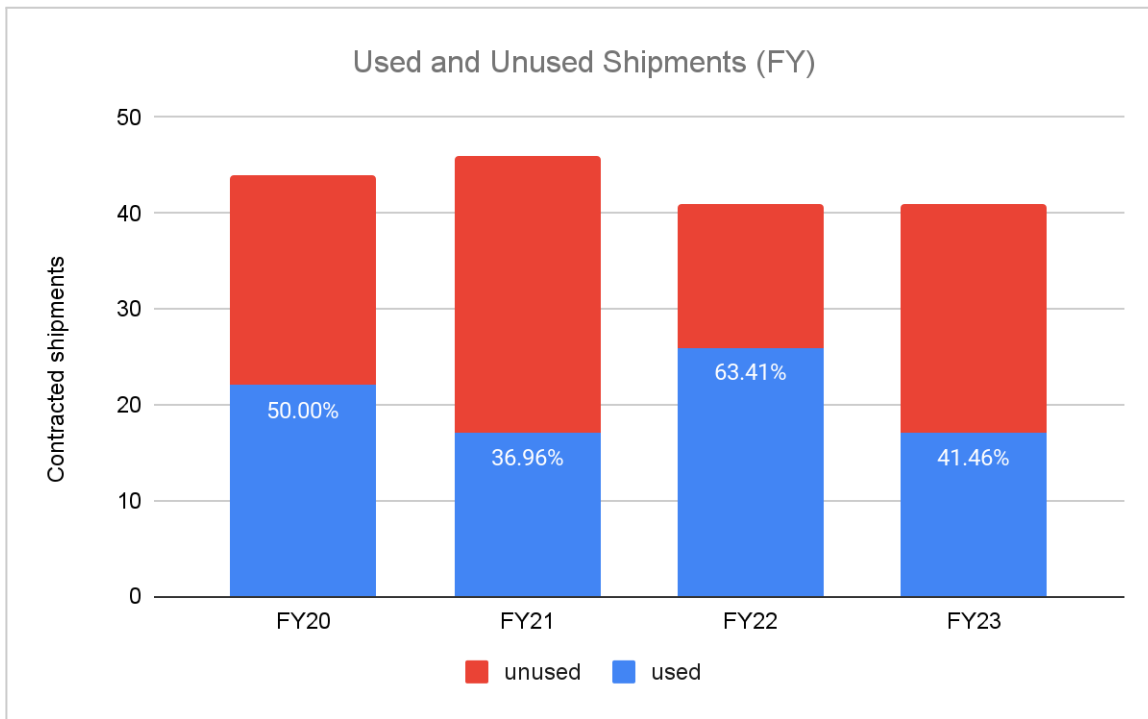
There are several potential explanations for low use of the service during the period described here. The second half of FY20 and first half of FY21 saw no JACS activity due to COVID-related closures and service restrictions at all campuses and the RLFs. The end of FY21 also saw systemwide attention focused on the final stages of preparation for the SILS migration that was implemented in the summer of 2021. Explanations for the low levels of use in FY23 are less clear.

The JACS shipping service is available to all campuses. However, between FY20 and FY23, only four campuses have leveraged the Iron Mountain shipping service for JACS materials: Davis, Riverside, San Diego, and San Francisco. One campus (Merced) does not hold print serials and so does not participate in JACS, and two campuses (Berkeley and Los Angeles) prefer to use locally-contracted shipping services to transfer materials to their local RLFs. Irvine, Santa Barbara, and Santa Cruz did not participate in JACS during these years.

Based on the total cost of the service contract for each fiscal year, it is possible to calculate an average cost per request. The most recent service agreement (for FY23) includes a total of 41 local shipments at a total cost of $20,845 for the year, or $508.41 per local shipment. Based on real use of the service, cost per shipment has been considerably higher than this baseline each fiscal year since FY20.

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[11] To analyze use of the shipping capacity, all long distance shipments have been converted to local per the service agreement (1 long distance = 3 local). This allows for comparison across fiscal years and eliminates the need to account for variation in use by the campuses.

Figure 8. Cost of each used shipment, based on the service agreement and number of shipping requests received from campuses (by fiscal year)
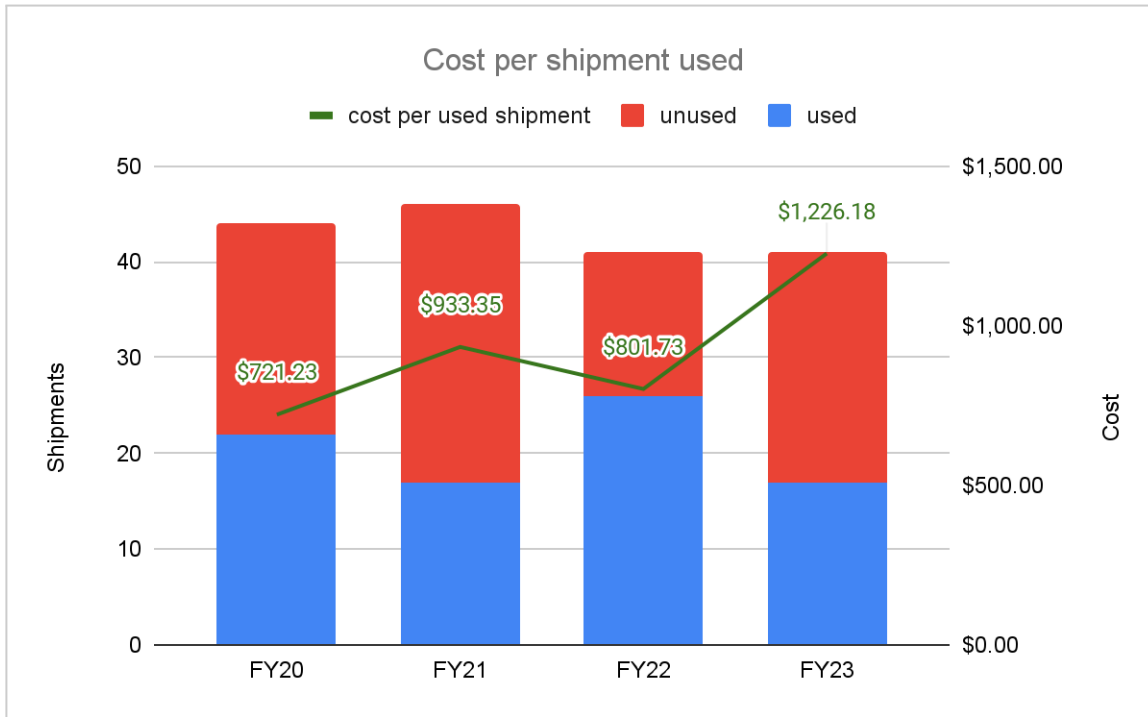
Collections management

To assess the impact of the JACS program on campus collection management, the CDL Shared Print Team leveraged data collected by the RLFs on each campus's JACS deposits. This data has been collected consistently since the first year JACS was implemented (2015/2016), including volumes archived (accessioned by the RLFs for the JACS program) and volumes deaccessioned (duplicative volumes discarded by the RLFs). These measures were also used to calculate the amount of space campuses were able to recover as a result of their participation in the JACS program. Finally, Alma Network Zone Analytics was used to estimate the number of volumes held at each campus that are eligible for JACS to assess the remaining potential for additional consolidation and space savings based on the JACS 1-8 title lists.

Conclusions

All campuses that hold print journals have participated in JACS to some degree over the lifetime of the program. Nearly two thirds of the volumes that have been transferred to the RLFs under the JACS program have been duplicates that RLF staff have respectfully deaccessioned on behalf of the campuses.

To date, systemwide space savings made possible by the JACS program are significant, with over 15,000 linear feet reclaimed by transferring materials to the RLFs for consolidation and deduplication. There are even more considerable potential space savings that could still be realized by each campus, with over 47,000 additional linear feet eligible for reclamation based on current campus holdings of journals on the JACS 1-8 title lists. Additionally, there are significant opportunities to leverage the JACS title lists to deduplicate the RLF collections, freeing up valuable space for new deposits.

Two campuses (UCLA and UC Riverside) are responsible for nearly half of the volumes transferred to the RLFs under this program (including volumes accessioned into and deduplicated by the RLFs), but represent only 22% of the remaining eligible volumes that campuses could send to the RLFs under the JACS program.

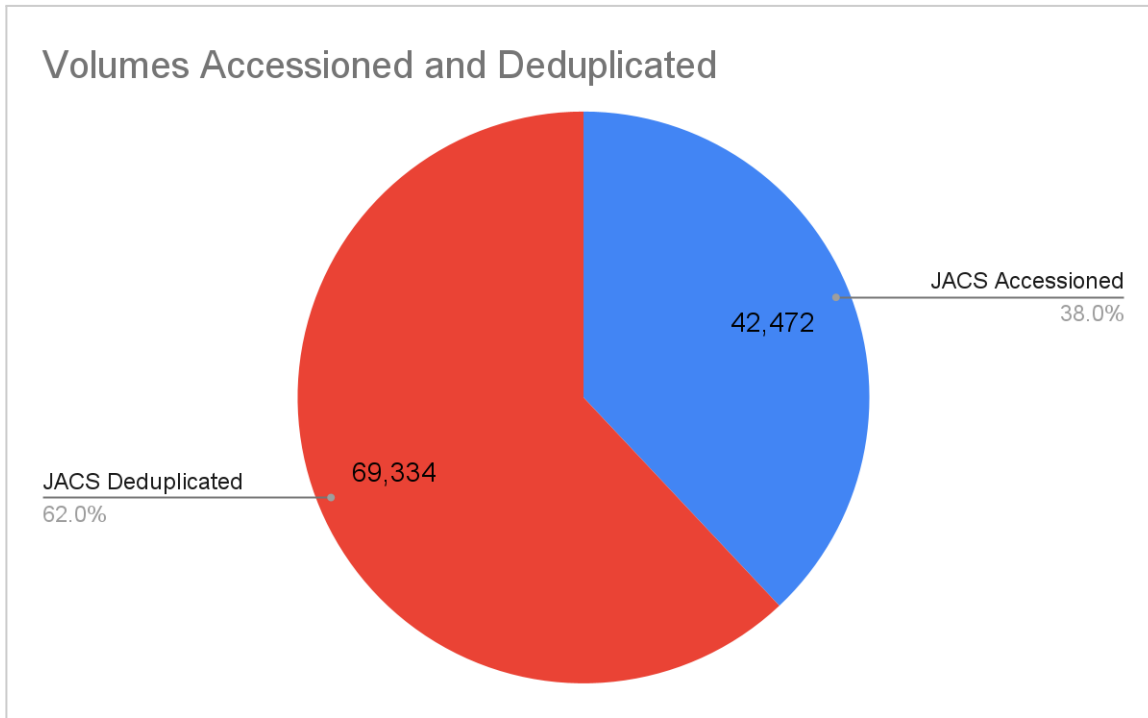## Campus Participation and Space Reclamation

The majority of campuses participated in the first five years of the program. Participation has been more mixed since 2020, when major disruptions related to COVID-19 and the SILS migration began impacting campus and RLF workflows and capacity.

Figure 9. Number of campuses participating in JACS (by fiscal year)
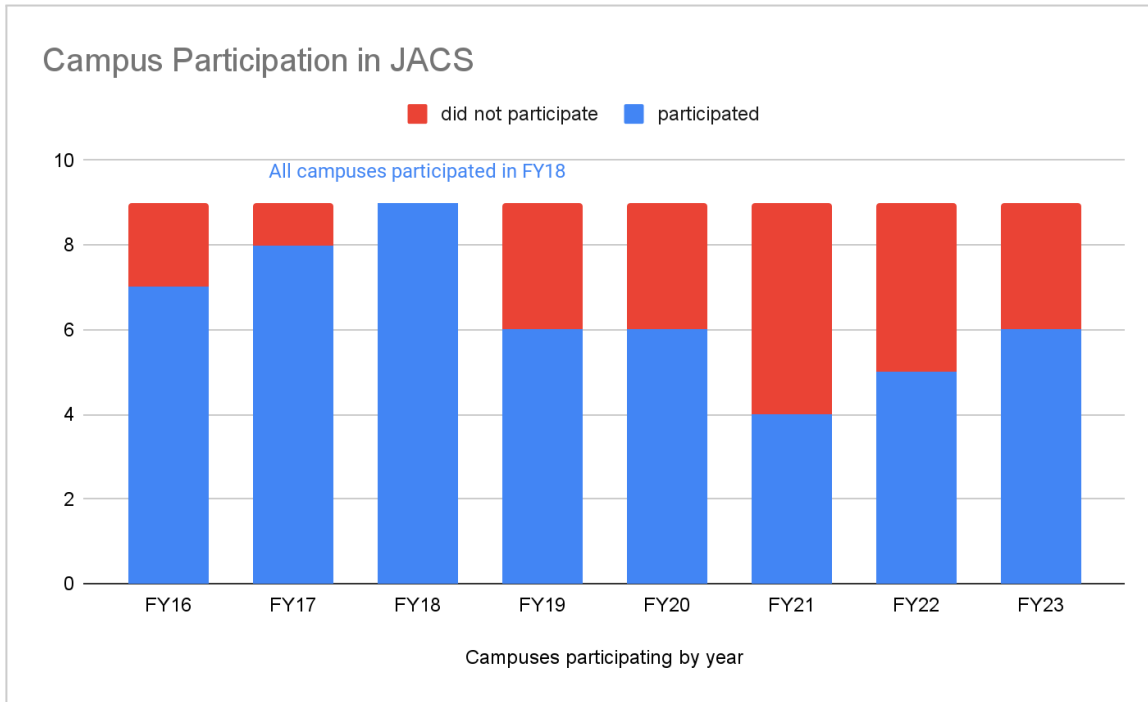
Of the volumes sent to the RLFs over the course of the JACS program, over 60% have been deduplicated, that is, discarded in favor of a copy already held in storage. This represents not only a tremendous space savings for the campuses, but also time and labor savings by centralizing this work at the RLFs. The deduplication service also serves the goals of shared print by providing the RLFs opportunities to compare duplicate copies and accession the one in the best physical condition.

Figure 10. Volumes accessioned vs deduplicated by the RLFs via the JACS program

Riverside has sent the largest number of volumes and consequently has seen the greatest levels of space reclamation resulting from participation in the JACS program.

Figure 11. Volumes sent by each campus through the JACS program, with calculated space savings
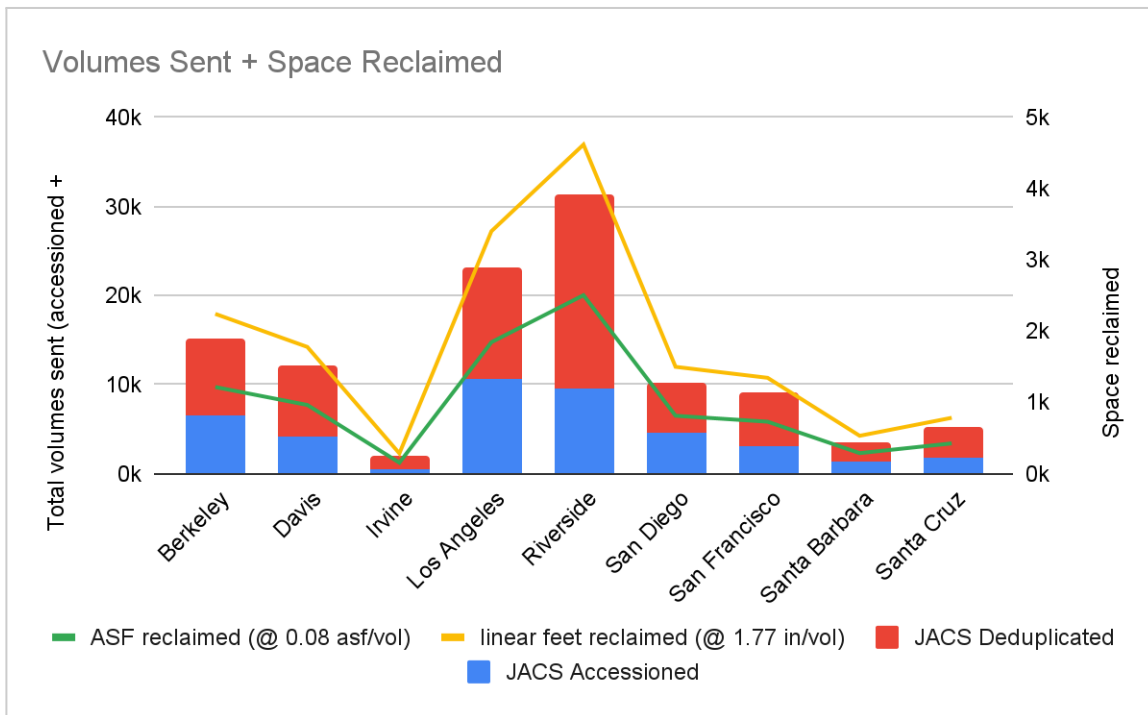
Table 5. Total volumes transferred to the RLFs under the JACS program by campus, with space savings realized from this work

Campus	Total Volumes Sent	Linear feet reclaimed (@ 1.77 in/vol)	Assignable sq ft reclaimed (@ 0.08 asf/vol)	Estimated seat equivalency[12]
Berkeley	15,206	2,242.89	1216.48	34.76
Davis	12,061	1,779.00	964.88	27.57
Irvine	1,933	285.12	154.64	4.42
Los Angeles	23,071	3,402.97	1845.68	52.73
Riverside	31,313	4,618.67	2505.04	71.57
San Diego	10,168	1,499.78	813.44	23.24
San Francisco	9,124	1,345.79	729.92	20.85
Santa Barbara	3,610	532.48	288.8	8.25
Santa Cruz	5,320	784.70	425.6	12.16
Total	**111,806**	**16,491.39**	**8,944.48**	**255.56**

Leveraging SILS Network Zone Analytics, it is possible to estimate the number of volumes still held at each campus for the titles on the JACS 1-8 title lists, and from there calculate the potential space savings each campus would see if all held volumes were transferred to the RLFs for accession or deduplication. Overall, campuses could triple the amount of reclaimed space through full consolidation of JACS titles at the RLFs.

Table 6. Remaining volumes eligible for transfer under the JACS program by campus, with anticipated space savings

Campus	Total Volumes Eligible	Total linear feet to reclaim (@ 1.77 in/vol)	Total assignable sq ft to reclaim (@ 0.08 asf/vol)	Estimated seat equivalency
Berkeley	54,347	8,016.18	4,347.76	124.22
Davis	58,926	8,691.59	4,714.08	134.69
Irvine	40,140	5,920.65	3,211.20	91.75
Los Angeles	53,648	7,913.08	4,291.84	122.62
Merced[13]	245	36.14	19.60	0.56
Riverside	16,728	2,467.38	1,338.24	38.24
San Diego	32,218	4,752.16	2,577.44	73.64
San Francisco	1,272	187.62	101.76	2.91
Santa Barbara	43,062	6,351.65	3,444.96	98.43
Santa Cruz	16,914	2,494.82	1,353.12	38.66
Total	**317,500**	**46,831.25**	**25,400.00**	**725.71**

Opportunities for RLF Space Savings

In addition to the potential campus space savings, there is also opportunity for the RLFs to leverage the JACS program to identify candidates for deduplication across the two locations consistent with the non-duplication

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[12] Estimated seat equivalency is calculated at 35 asf per seat.
[13] UC Merced does not intentionally collect print journals. It is likely that these eligible volumes are part of monographic series that are included in JACS title lists.

policy.[14] In 2019 the Shared Print Strategy Team and Direction and Oversight Committee endorsed a policy to allow the RLFs to serve as contributors in the JACS program,[15] which would allow the RLFs to deduplicate their collections where they have holdings for titles designated for archiving at the other RLF location, or to respectfully discard duplicative volumes in favor of the archived copy.

Table 7. RLF held volumes for JACS titles designated for archiving at the other RLF

RLF	Total volumes eligible for deduplication or transfer	Total linear feet (@ 1.77 in/vol)
NRLF	43,169	6,367.43
SRLF	41,659	6,144.70
Total	**84,828**	**12,512.13**

While the RLFs have a long-standing policy of deduplication between the two locations, there have been only limited experiments with transferring collections between the locations to consolidate holdings. There are significant logistical considerations, including the limited remaining available space at SRLF and the need for additional resources to support this work at both locations, that require further investigation. However, UC may still be able to achieve a complete archived copy by allowing a single deduplicated run held across both RLF locations, as highlighted in the RLF Resourcing & Workflows recommendations.[16]

What's left to archive for JACS

To date, each JACS analysis has prioritized titles that are widely duplicated across the UC system and has largely left out more scarce and uniquely held titles, with some exceptions. This priority was established during the development of the JACS program in order to provide broad opportunities for deduplication of local collections for space reclamation.

Conclusions

The JACS program has had considerable success identifying high-overlap titles (held by five or more campus or RLF locations) to consolidate within the RLFs for systemwide benefit. The remaining high-overlap titles eligible for inclusion on future JACS list represent less than 10% of the overall remaining eligible collections; when taking into account Rosemont archiving status, high-overlap titles account for only 2.5% of the remaining eligible collections. There are significant opportunities for further work consolidating more scarcely held titles at the RLFs, to ensure they are available in the long term for current and future scholars. While this shift in focus to the 'long tail' of collections means that campuses will have fewer opportunities for space reclamation, it also represents major contributions that UC can make to both systemwide and national shared print collections.

Analysis

Through each JACS analysis the Shared Print Strategy Team and its Collections Working Group aim to identify a title list representing an estimated 20,000 volumes to archive per year and 10,000 duplicate volumes, split evenly between the RLFs (15,000 volumes total processed at each RLF per year). Limiting the total number of volumes that are archived each year both scopes the effort invested in this project at the RLFs and also sets a predictable

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[14] https://libraries.universityofcalifornia.edu/wp-content/uploads/2012/11/Non_Dup_Policy_RLF_06_16_2010.pdf
[15] https://cdlib.org/wp-content/uploads/2021/01/RLFs_JACSContributorsEndorsedProposal.pdf
[16] "Articulate the benefits and considerations of embracing a new shared print model in UC wherein title runs may be retained in a single RLF or be retained across both RLFs"

pace at which the remaining collections are drawn down. Reviewing the remaining eligible collections[17] shows that while there is still a significant number of volumes eligible for archiving under the JACS program that fall into this "widely duplicated" category (more than 13 years' worth of archiving at the current pace), it is roughly one-fifth the size of the "scarcely held" collections.

Table 8. Overlap analysis of remaining journal families, with volumes to preserve

Duplication in UC	Journal Families Remaining	Volumes to Archive
1-4 campuses	27,092 (91%)	713,285 (84%)
5-11 campuses	2,718 (9%)	139,824 (16%)
Grand Total	**29,810**	**853,109**

In recent analyses, the Collections Working Group (CWG) responsible for conducting the analysis and setting the final selection criteria to craft each JACS title list has expressed a strong preference for leveraging strategic national shared print partnerships (specifically, the Rosemont Shared Print Alliance) to target UC efforts and reduce duplication of work across the shared print community.

The CWG has noted that the number of highly duplicated titles that are not yet archived by any Rosemont Alliance partner program is rapidly diminishing. More than 80% of the remaining duplicated journal families have already been archived by a Rosemont Alliance partner program. Titles with lower levels of systemwide duplication are less likely to already be archived by Rosemont.

Table 9. Remaining JACS-eligible journals with Rosemont retention comparison, by duplication level

Duplication in UC	Journal Families Remaining	Journal Families Remaining Not Archived by Rosemont	% Journal Families Remaining Not Archived by Rosemont
1-4 campuses	27,092	19,747	72.89%
5-11 campuses	2,718	520	19.13%
Grand Total	**29,810**	**20,267**	**67.99%**

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[17] The remaining eligible collections are those that were included in the most recent collection analysis reports (generated in 2021) but were not selected for the final JACS 7 & 8 title lists.

Figure 12. Current Rosemont Alliance archiving status of remaining JACS-eligible journals, by systemwide duplication level
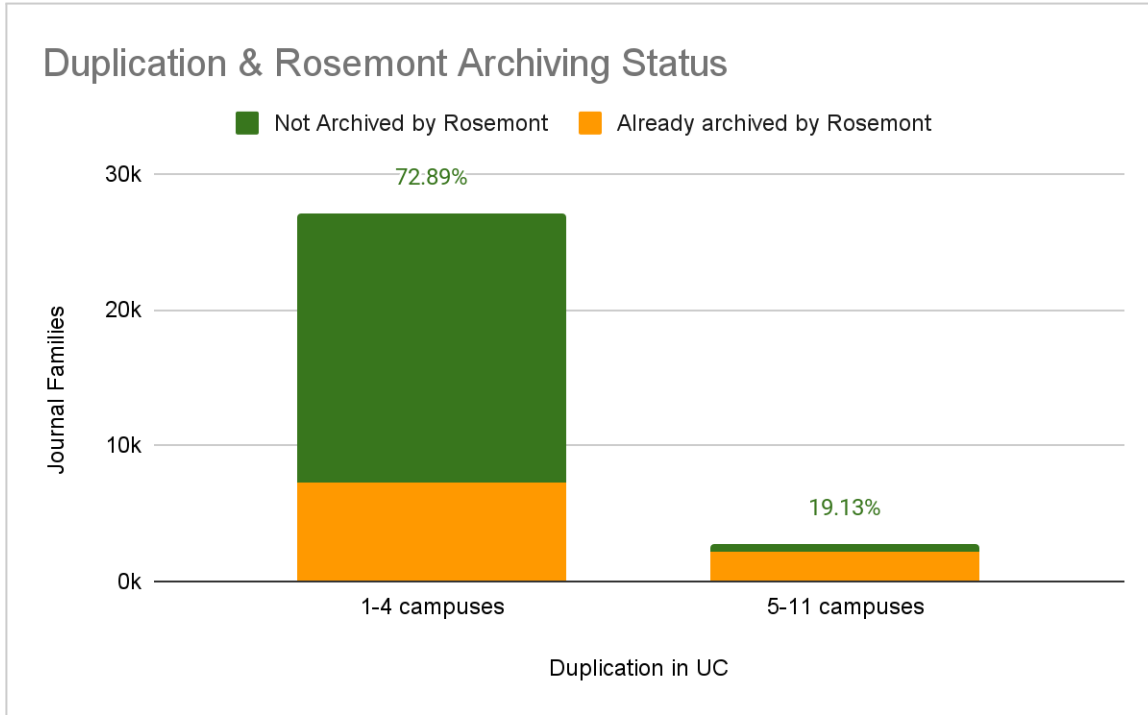
Looking more closely at the remaining JACS-eligible journals that have not yet been archived by any Rosemont program, it is clear that the current JACS model, which targets high-overlap titles and avoids duplicating Rosemont archiving work, has limited ongoing viability. The 520 high-overlap journal families not archived by Rosemont include an estimated 12,562 volumes to be archived, or roughly half of one year's worth of archiving.

Table 10. Remaining JACS-eligible journals not archived by any Rosemont partner program, with volumes to preserve, by duplication level

Duplication in UC	Journal Families Remaining (Not Archived by Rosemont)	Volumes Remaining to Preserve (Not Archived by Rosemont)
1-4 campuses	19,747	443,958
5-11 campuses	520	12,562
Grand Total	**20,267**	**456,520**