What's in an Address? Transforming ILLiad Data into Resource Sharing Insights

Joanne McIntyre

Abstract:

Interlibrary loan (ILL) systems contain a wealth of data that can inform operations, assessment, and collection development. Yet, the capacity to analyze and interpret ILL activity often lags behind that of other library departments because of legacy software. ILLiad, one of the most widely used ILL management systems, contains numerous free-text fields, including address records originally designed for mailing rather than for analysis. Inconsistent and incomplete entries limit the ability to extract meaningful statistics about resource-sharing activity. To answer nuanced questions, including those required by the ALA RUSA STARS Quadrennial International Interlibrary Loan Survey, we developed a simple, replicable three-part method: Clean, Create, and Group. By cleaning address data using a controlled vocabulary, creating internal-use addresses to represent local workflows, and grouping records by category, we transformed a static contact list into a dynamic data source. This project enhanced our ability to generate targeted statistics, improved collaboration across departments, and demonstrated how a modest data-cleaning initiative can yield lasting operational and analytical benefits.

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Joanne McIntyre, University of Colorado Boulder, United States

ABSTRACT

Interlibrary loan (ILL) systems contain a wealth of data that can inform operations, assessment, and collection development. Yet, the capacity to analyze and interpret ILL activity often lags behind that of other library departments because of legacy software. ILLiad, one of the most widely used ILL management systems, contains numerous free-text fields, including address records originally designed for mailing rather than for analysis. Inconsistent and incomplete entries limit the ability to extract meaningful statistics about resource-sharing activity. To answer nuanced questions, including those required by the ALA RUSA STARS Quadrennial International Interlibrary Loan Survey, we developed a simple, replicable three-part method: Clean, Create, and Group. By cleaning address data using a controlled vocabulary, creating internal-use addresses to represent local workflows, and grouping records by category, we transformed a static contact list into a dynamic data source. This project enhanced our ability to generate targeted statistics, improved collaboration across departments, and demonstrated how a modest data-cleaning initiative can yield lasting operational and analytical benefits.

Keywords: Interlibrary loan, ILLiad, Resource sharing, Address standardization, Data cleaning, Data standardization, Consortial lending, Controlled vocabulary, Library statistics

INTRODUCTION: FROM MAILING LABELS TO MEANINGFUL METRICS

Interlibrary loan (ILL) has long been a cornerstone of library cooperation, ensuring access to information across institutions. ILLiad, developed at Virginia Tech in 1999 and later supported by Atlas Systems under OCLC distribution, remains central to many ILL operations. However, it still reflects its late-1990s architecture, relying heavily on undefined free-text fields. As academic libraries adopt more data-driven approaches to management and assessment, the ability to extract meaningful statistics from operational systems has become essential (Showers, 2015). Legacy design presents a persistent obstacle. Free-text fields resist aggregation and are an impediment to evidence-based decision making. As previous studies have shown, interlibrary loan data can serve as a powerful indicator of, among other things, collections' strengths and gaps (Knievel, Wicht, & Connaway, 2006). However, the potential of ILL data often goes unrealized when system structures inhibit analysis.

At the University of Colorado Boulder, ILLiad serves as our central hub. We have two instances of ILLiad, one on campus and one at our offsite storage facility, PASCAL. ILLiad

requests are sent to and received from multiple systems, including OCLC WorldShare, Rapid, DOCLINE, and RSCVD. Each of these systems structures its reporting differently, often emphasizing fill and cancellation counts without offering meaningful context. Our department receives over 25,000 lending requests and 12,000 borrowing requests annually. To see a complete picture of our unit's activity, we aggregate data from ILLiad, which has the capacity to store detailed information. Unfortunately, ILLiad's legacy design complicates this process.

The question we faced was straightforward but challenging. How could we leverage ILLiad's existing data to gain deeper insight into document delivery and resource sharing? Our answer lay in rethinking a core but overlooked component, the address record. By treating ILLiad's address data as an analytic layer rather than a mailing directory, we discovered opportunities for structured analysis.

THE PROBLEM: THE CURSE OF THE FREE-TEXT FIELD

A persistent barrier to meaningful data analysis within ILLiad stems from its reliance on undefined free-text fields. Address records, the foundation for identifying borrowing and lending partners, were particularly problematic. Over time, inconsistent abbreviations, missing geographic indicators, and outdated entries accumulated. This lack of structure made it nearly impossible to isolate requests from specific regions, consortia, or international partners (see Figure 1).

While ILLiad's standard reports provide general fill rates and turnaround times, they cannot answer more granular questions from administrators and colleagues. As Tennant and McCue (2023) note, the interpretation of interlibrary loan statistics, especially fill rates, can be misleading when system-level variables and data inconsistencies are not accounted for.

Queries such as "How much lending occurs within the Prospector system?" or "How many international requests are filled each year?" required extensive manual counting or complex custom searches that produced unreliable results. Before standardization, searches for California or Canada included results for both.

The problem was not the volume of data but its inconsistency. As one staff member put it, "ILLiad knows everything we do. It just can't tell us." The challenge was to make the system's internal data legible. We realized that the same principles that apply to bibliographic control, structure, and authority could also improve administrative data quality.

Figure 1. Examples of Unstructured Data in Address Records within ILLiad.

METHODOLOGY: CLEAN, CREATE, GROUP

Our address project unfolded in three deliberate stages: Clean, Create, and Group. Each stage built upon the previous one, transforming ILLiad's unstructured address book into a robust, analyzable dataset.

Clean

The first stage involved establishing a controlled vocabulary and formatting rules for all existing and new address records. ILLiad's address fields (Address1, Address2, Address3, and Address4) are undefined, meaning that any data can be entered in any field. We created documentation, including a style guide specifying which fields should contain which data. For example, Address4 was designated to store the full country name in all capital letters, while state abbreviations followed U.S. Postal Service two-letter abbreviations (see Figure 2).

Figure 2. Address Standardization Format in ILLiad.

We then systematically reviewed our existing addresses. Duplicate entries were merged, and inconsistent addresses were standardized. Imported addresses from OCLC WorldShare and DOCLINE often contained usable data but required formatting edits. By contrast, addresses imported from Rapid included only the library symbol, despite the information available in the Rapid Library Directory. RSCVD addresses had to be created manually. This cleaning phase, while ongoing, has significantly reduced data inaccuracies and laid the foundation for consistent analysis.

Create

The second stage focused on representing internal workflows that were previously invisible in reports. We created internal-use addresses to tag document delivery activities, including scanning from print and delivery of licensed e-resources. The library symbols for these records were entered into ILLiad transactions in place of external library symbols, allowing internal operations to be tracked and quantified.

For instance, a document delivery request filled by downloading a journal article was linked to an address such as ProQuest, while a request fulfilled by scanning from a book held at our Music Library was linked to an address Music. To date, we have created over 200 local-use addresses. This approach allowed us to answer new questions such as: How much of our document delivery is supplied from print collections versus electronic resources? Which platforms supply the most frequently requested e-resources?

To ensure consistency, we collaborated with the Acquisitions department to obtain an authoritative list of vendors and content platforms. We created a locally defined address record for each, and corresponding address symbols were added to a shared spreadsheet for searchable reference.

Group

The final stage leveraged ILLiad's underused Groups Maintenance feature (Atlas Systems, n.d.). We assigned each address to a logical category reflecting how we wanted to analyze activity. We created several groups, including "E-Resources," "Colorado Libraries," "International," and "Local Scans." Creating groups was much easier once the address records had been cleaned. The defined fields were easier to search, and libraries could be added to groups in bulk. ILLiad's web statistics now display these new groups as parameters for generating reports (see Figure 3).

Figure 3. Group Parameters in ILLiad Web Reports.

We were then ready to implement the new system across staff workflows. The next phase focused on documentation, training, and integration into daily operations to ensure the system's longevity and accuracy.

IMPLEMENTATION

Putting these ideas into action required careful attention to both data and people. We began by exporting the full address table from ILLiad, a list of nearly 14,000 records for two ILLiad instances. Given the large number of records, this portion of the project remains ongoing. Each staff member participates in reviewing and editing a subset of entries. To manage change, we framed the initiative as an ongoing maintenance project rather than a one-time cleanup. Staff are encouraged to update the address list incrementally. What started as a large project evolved into a daily practice woven into routine operations. As we continue to clean records, we have incorporated adding the addresses to appropriate groups as part of the cleanup process, an easy step since groups are visible in the address record with a checkbox.

The next challenge involved integrating internal use addresses into existing workflows without disrupting daily processing. We conducted a demonstration session, followed by a brief documentation review, emphasizing that these new addresses were analytical tools that would help convey important aspects of our work to library administrators and stakeholders. Staff quickly adopted them, and the results were immediately visible. When a request was coded as a local scan or e-resource download, it appeared as a discrete, countable item in reports.

The results of the project were both quantitative and cultural. Statistical clarity improved dramatically. Grouping partner libraries by consortium revealed that 46 percent of loan transactions were to our Greater Western Library Alliance (GWLA) partners. Additionally, we can now show with certainty that we are in compliance with the GWLA agreement, which requires an average turnaround time of 24 hours or less. Our current annual average turnaround time for GWLA libraries is 10 hours.

We migrated our Library Management System (LMS) from Sierra to FOLIO. This change in software meant we had to suspend Prospector services while working with vendors to update Inn Reach software. What was the effect on interlibrary loan through other avenues? We discovered that the increase in interlibrary loans was minimal (see Figure 4).
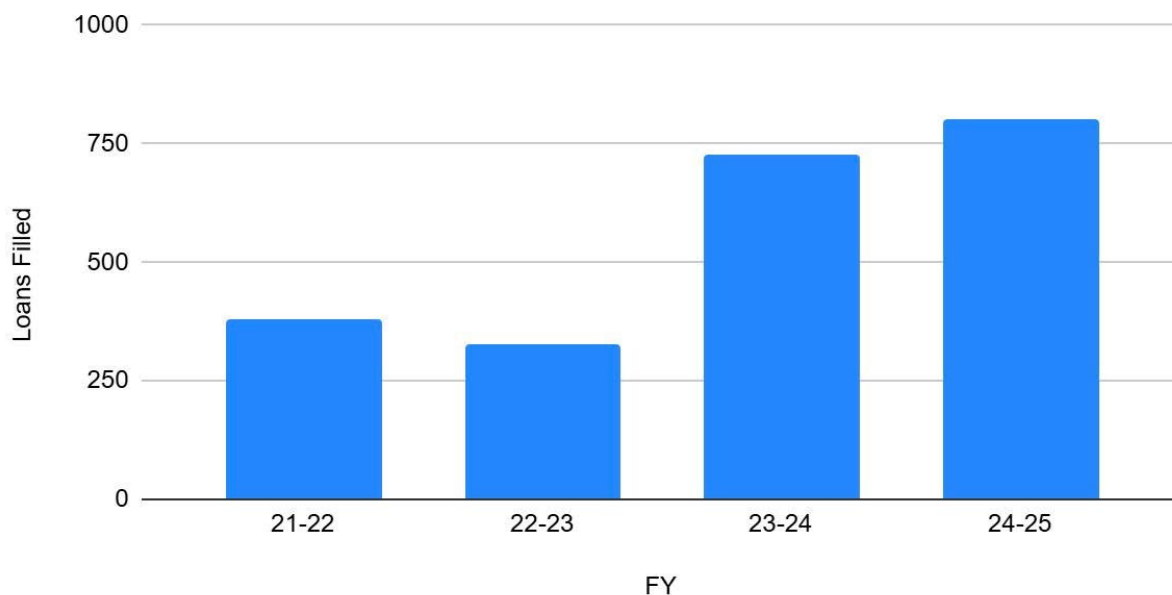
Figure 4. Impact of Prospector Inn Reach Shutdown on Interlibrary Loan.

We seemed to be busier than in previous years. What could explain that? We could now break out labor intensive document delivery scanning statistics from e resource downloads. This insight allowed us to quantify and demonstrate intuitive experiences, such as "we seem to be

scanning much more than we did in years past." Quantifying this enabled more accurate workload estimates, as scanning tasks require much more staff time than downloads. The data justified cross training additional student employees to use our overhead scanner (see Figure 5).

What Was the Effect of COVID on Local Document Delivery Scans from Print?
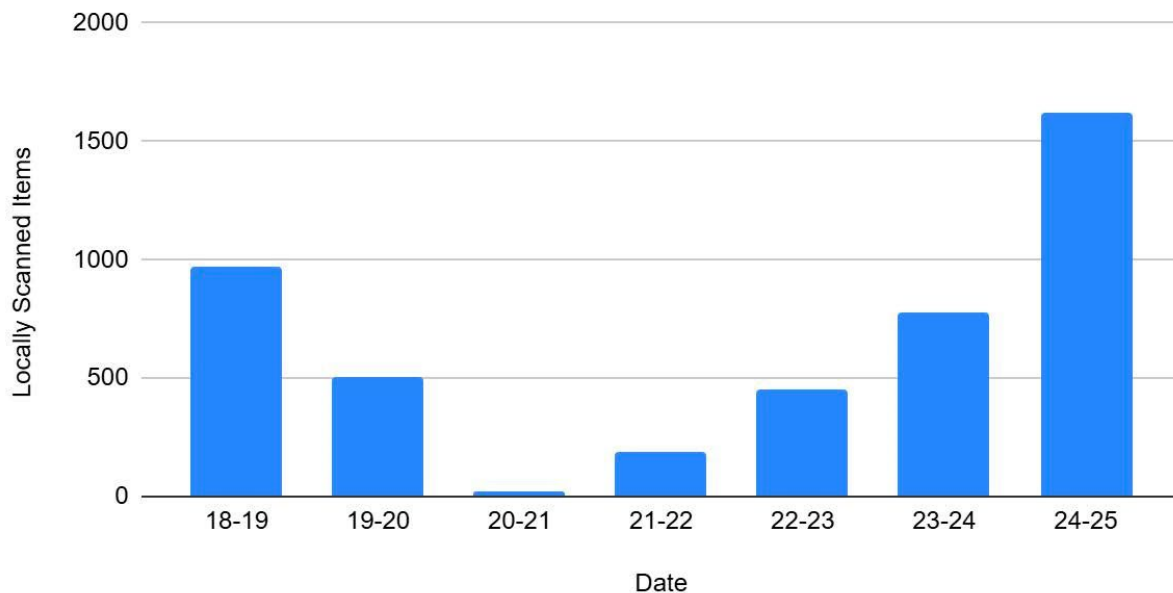
Figure 5. Effect of COVID on Document Delivery Scans.

Adding full country names to address fields also streamlined international reporting. Completing the ALA RUSA STARS Quadrennial International ILL Survey, which once took many days of manual counting, now requires less than a day and produces verifiable totals (see Figure 6).

How Much Do We Loan Internationally?

Figure 6. International Lending Statistics Generated through Standardized Address Data.

Additionally, we can now better answer questions posed by our colleagues and identify which licensed platforms host items that our patrons did not find. Beyond the numbers, the project changed how staff think about data. What began as cleaning up addresses became a cultural shift toward data stewardship.
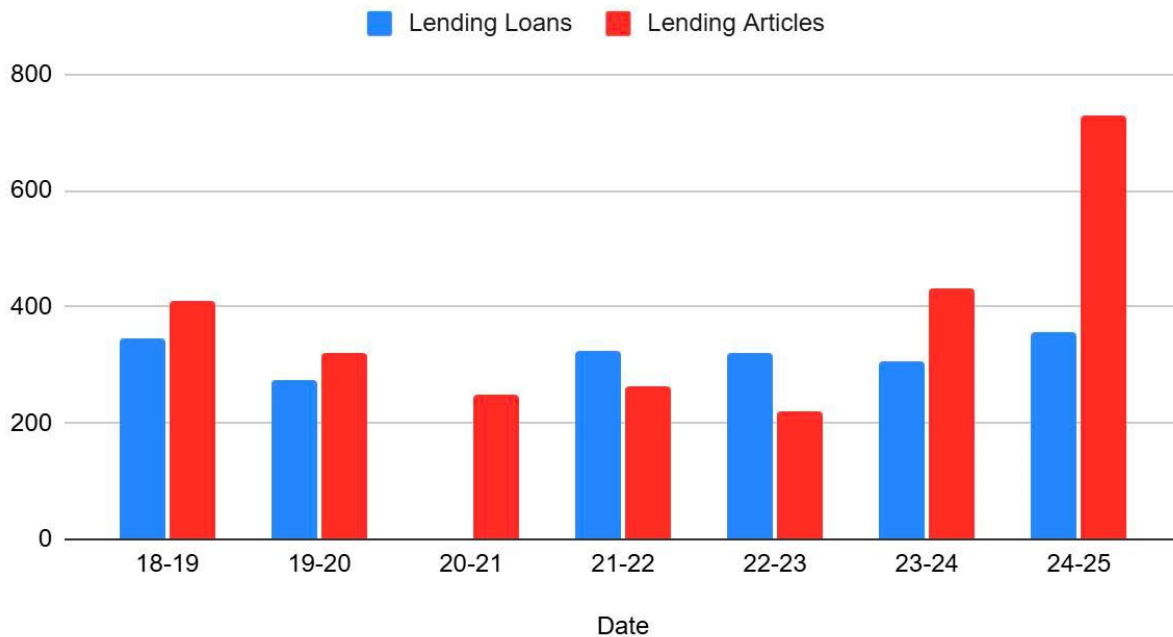
DISCUSSION: LESSONS LEARNED AND BROADER IMPLICATIONS

This project, while ongoing, underscores how even modest data governance efforts can produce substantial organizational insight. The three-step framework, Clean, Create, and Group, required no new software or coding, only a commitment to consistency and documentation. Yet it fundamentally reshaped our understanding of interlibrary loan activity and strengthened communication between departments.

The initiative also illuminated a broader truth about library operations, that data quality is everyone's responsibility. When systems rely on free-text fields, every individual keystroke has analytical consequences. A single typo or inconsistent abbreviation can fragment statistics across multiple records, reducing accuracy in reports and limiting administrative decision-making. By standardizing entries, we created a shared language for staff and a foundation for reliable metrics.

Perhaps the most important lesson was one about culture. Data cleanup is often perceived as tedious back-end work disconnected from frontline service. By reframing it as an opportunity to learn what the system could reveal about our hard work once organized, we transformed staff

perception. The visibility that followed validated the effort. Clearer statistics made everyone's contributions more visible and appreciated.

ILLiad is not unique in its reliance on free-text data fields. Many legacy systems were built for flexibility, not analytics. Applying cataloging principles, controlled vocabulary, authority, and documentation to operational data bridges that gap.

The process of creating documentation, conducting collaborative cleanup, and defining analytical groupings can apply across library systems. The work is straightforward. The real challenge is fostering shared ownership of the data.

There are, however, limitations. The project's accuracy depends on consistent manual entry. Staff turnover could reintroduce inconsistency. For long-term sustainability, some degree of automation would be beneficial. Right now, groups are only usable in ILLiad's web reporting. Improvements to the software, such as incorporating groups as a search term in the client-based custom search, have the potential to produce even more powerful insights.

Despite these limitations, the success of this project suggests that legacy systems still have untapped potential. With minimal resources and no vendor customization, we achieved reliable, actionable insight. In our case, stewardship emerged not from new technology but from librarian ingenuity and a willingness to treat every record, even an address field, as an opportunity for discovery.

To ensure lasting data quality and project sustainability, we have built an annual review process into routine operations. Each year, staff verify and update address records associated with incoming requests. Once an address has been fully reviewed and cleaned, it is marked with the current year in our custom groups, visually confirming that no further review is necessary until the following year. This approach keeps the addresses for our most frequent interlibrary loan partners up to date while allowing other address records to be checked gradually as time permits. Comprehensive documentation supports this process. We have developed detailed instructions for annual maintenance and staff training. All current staff are fully trained, and the documentation provides clear guidance for onboarding new staff members, ensuring that the project remains sustainable and transferable over time.

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About the author

Joanne McIntyre is the Resource Sharing Librarian at the University of Colorado Boulder, where she manages the Resource Sharing Section. She is the co-chair of the ALA RUSA STARS International Interlibrary Loan Committee. Her work focuses on interlibrary loan data quality. She presented this project as a poster at the 2025 American Library Association Conference.

Orcid ID https://orcid.org/0009-0001-0715-151X