

GEORGE MASON UNIVERSITY

President's Library Task Force
(Draft) Report and Recommendations

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Submitted by:

Deborah A. Boehm-Davis, Psychology
Lorraine A. Brown, English (Faculty Senate representative)
Julie A. Christensen, Modern Languages
Christopher Clark, (Student Government representative)
Sheila ffolliott, Art History
Gary R. Galluzo, Education and Human Development, *Co-Chair*
John J. Grefenstette, Computational Sciences
Gerald A. Hanweck, Finance
Lorna M. Irvine, English
Deborah M. Keene, Law Library
Paul S. Koda, University Libraries
Connie L. McNeely, Public Policy
Stephen G. Nash, Information Technology & Engineering
John Paden, Robinson Professor of International Studies
Roy A. Rosenzweig, History /Center for History & New Media
Robert L. Sachs, Mathematics
John G. Zenelis, University Libraries, *Co-Chair*

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
Library Collections & Electronic Access.....	ii
Library Services.....	iii
Library Staffing Requirements and Functional Expertise	iv
Facilities.....	v
Technology.....	vi
Library Consortia.....	vi
Funding & Fundraising	vii
INTRODUCTION	1
<i>Technology-enhanced University</i>	2
<i>International and Global Orientation</i>	3
<i>Research University</i>	3
<i>Mason as a Distributed University</i>	4
<i>The Mason Libraries in 2010 and Beyond</i>	5
Information Management	5
Knowledge Management.....	6
New Roles for Librarians	8
LIBRARY COLLECTIONS & ELECTRONIC ACCESS	10
An Assessment and Future Needs	11
LIBRARY SERVICES	15
LIBRARY STAFFING and FUNCTIONAL EXPERTISE	18
New Roles for Librarians	19
LIBRARY FACILITIES	22
Arlington Campus.....	23
Fairfax Campus	23
Prince William Campus.....	25
Other University Locations.....	25
LIBRARY TECHNOLOGY.....	27
Overview of Current Library Technology	27
Future Library Technology Trends	28
LIBRARY CONSORTIA	30
Washington Research Library Consortium (WRLC).....	30
The Virtual Library of Virginia (VIVA).....	32
Association of Southeastern Research Libraries (ASERL)	33
Center for Research Libraries (CRL)	34
Affiliation (and Possible Affiliation) with Other Organizations.....	35
FUNDING & FUNDRAISING	38
Base Budget Requirements, 06-08 and 08-10 Biennia	38
Development & Fundraising.....	39
Grants.....	40
Other Revenue Enhancing Opportunities	41
APPENDIX I: Summary of Recommendations	43
Library Collections and Electronic Access	43
Library Services.....	43
Library Staffing Requirements & Functional Expertise.....	44
Library Facilities.....	45
Library Technology	46
Library Consortia.....	46
Funding & Fundraising	47
APPENDIX II: University Libraries' 2010 Budget Requirements	48
APPENDIX III: Examples of Extended Liaison Librarian Interactions and "Value Added" Service	49
APPENDIX IV: Library and Academic Department Partnerships	53
GLOSSARY	57

EXECUTIVE SUMMARY

The report and recommendations of the President's Library Task Force summarize the range of initiatives that University Libraries must engage in and build upon in order to contribute to the attainment of Mason's vision through 2010 and beyond. The University's commitments to the comprehensive use of information technology, the continued development of distributed campuses, the pursuit of an international presence, the expansion of doctoral level education, and the strengthening of our standing as a research university, require a commensurately ambitious plan for the library.

As Mason embarks on its next phase, the present time offers a major opportunity for a significant investment in University Libraries. This is central to the achievement of the goals of Mason's academic units, both individually and collectively. By augmenting and strengthening the capabilities of the library, all of the University's students, faculty and staff will derive benefits essential to their academic endeavors and related research activities. The library clearly constitutes a major asset for the University – it enables, contributes materially to, and adds value to the work of our academic community. Its enhancement will serve as a major recruitment, retention and motivation instrument for the high quality students, faculty, and staff that we aspire to have at Mason, and it will contribute to a range of measures of distinction for the University.

Mason's library system is transforming itself, moving beyond its continuing repository function (where students and faculty visit for resources and assistance) to a digital portal (that facilitates access to the wider world of knowledge). Professional and specialized support staff will increasingly act as expert guides and advisers. Librarians will assume an active role in education and research, directly contributing to a qualitative leap in the sophistication and range of Mason's educational outcomes, research and scholarship. This transformation will require additional investment -- an investment that would yield a multitude of benefits throughout the institution.

Task force members believe that the recommendations contained in this report provide a well-considered and pragmatic path for Mason's library. The additional financial resources needed, along with the other University commitments identified, are significant. However, these should be viewed in the context of baseline requirements for effectively operating a research-level library of a major university. Mason will continue the development of its library and component services and programs, following a different trajectory than at other universities (e.g., emphasizing information technology and digital content, conceiving of new library space as both teaching/learning and research commons, and integrating the overall library program in the education and research outcomes of the University). Proceeding on the course outlined in this report will ensure that the University Libraries' operational needs are met and, in turn, its capability strengthened to fulfill its mission and role in the larger context of goals and aspirations of George Mason University.

In line with this overarching vision, the task force's recommendations were developed within seven areas:

- Library Collections & Electronic Access
- Library Services
- Library Staffing Requirements and Functional Expertise
- Facilities
- Technology
- Library Consortia
- Funding & Fundraising

Each of these areas is discussed briefly below. (See Appendix I for a detailed list of the task force's recommendations for each area.)

Library Collections & Electronic Access

Changes in the scholarly communications process require a sustained effort to acquire and integrate purchased, licensed, open access, and public domain scholarly materials into Mason's library research collections. Print, electronic, and other media-based collections must be acquired at a more accelerated rate than at present, including acquisition of

international, “grey literature,” foreign language, and special collections materials. Library collections supporting both the education and research needs of the distributed campuses will continue to be developed, with an emphasis on shared networked electronic resources, along with an efficient inter-campus delivery system, which will ensure that the interdisciplinary needs of the entire University community will be met by these decentralized collections in a seamless fashion. Broadly, University Libraries will:

- Begin to build research collections in new areas of University graduate education and research such as Bio-Medicine, Bio-Defense, and Neuroscience, while continuing to develop collections in existing areas of University excellence.
- Expand the scale of Special Collections, with a focus on the acquisition of scarce/rare specialized original materials and digitization of primary materials.
- Effectively and efficiently utilize increased funding to develop overall library research resources, using new monies to acquire research materials in innovative Mason program areas, and also addressing the inordinate rise in the cost of scholarly and research information.

Library Services

University Libraries will expand its efforts to integrate information literacy/fluency into its instructional program and strengthen its relationships with faculty and students through collection development, research consultative services, and outreach and marketing. The library will continue to develop and offer services to segments of the Mason community through the provision of specialized services such as copyright, dissertation and thesis, University records management, statistical analysis, and “knowledge management” support and assistance. Consistent with these aims:

- The library will strengthen its academic collaborations by developing research portals for digitally-based scholarly resources tailored to specific disciplines or academic programs.
- Customized services will be developed for patron groups and/or academic units, such as provision of alerting services, enhanced support for asynchronous learning and other forms of distance teaching/learning, and web-based library research discovery tools.
- The information literacy/fluency based library instruction program will expand to reach considerably larger numbers of undergraduate students in all majors through general education, writing (and technology) across the curriculum, and research methods courses.

- Emphasis will be placed upon development of robust advanced reference and research consultative services, especially for upper level undergraduate and graduate students, and faculty researchers.
- Library programs and services will be placed within a framework of assessment that tracks the University Libraries' impact on outcomes associated with student learning and faculty teaching and research.

Library Staffing Requirements and Functional Expertise

The unique nature of the University Libraries' growing research collection in multiple formats creates a complex environment within which to provide information management services, but this also creates opportunities for broadening the knowledge management role of librarians within Mason, creating new opportunities to work collaboratively with students and faculty. Active collaboration with faculty in the areas of curriculum and research requires a greater degree of specialization on the part of librarians, while changes in the scholarly communication process mean that the library must begin to recruit librarians with backgrounds in specific disciplines, as well as foreign language expertise. The evolving role of librarians as professional faculty, along with ever increasing workloads, point toward the need for both additional library staff -- librarians and support staff -- and a robust staff development and training program. For recruitment, retention and motivation reasons, this also means that library personnel, especially at the higher end of professional expertise and responsibility, need to be compensated competitively within the Washington DC Metropolitan market region. Specifically, the following objectives need to be achieved:

- More library staff (librarians and support) must be added to address current limitations and to enable further programmatic development of the library's services and research resources components.
- The evolving library-University requirements point to the need for much greater specialization -- academic training, linguistic expertise, and research librarianship domain knowledge -- in staffing University Libraries in the future.
- A generally marked improvement in the University Libraries' compensation system is necessary, including targeting key library positions for higher-end market salary "industry" parity.

- Liaison librarians will actively participate in the curriculum where the skills of information and knowledge management are taught to the students. Librarians will streamline the library research process to help improve students' academic performance and learning outcomes, as well as faculty research productivity.

Facilities

The University's enrollment growth and academic program expansion, along with growth in the library's collections and staff, requires planning for new facilities at the Arlington, Fairfax, and Prince William campuses. Planning for a new library facility, which will be a major expansion of the current Fenwick Library at the Fairfax Campus, needs to commence immediately. The new library facility would feature technology and services for individual and group learning, instruction facilities, a state-of-the-art special collections/archives area, as well as articulated spaces for learning commons, research consultations, lectures and other services. The next round of building construction at the Prince William campus should encompass a new library facility, which might be co-located with other student-faculty services. Planning is currently underway for a new Arlington campus library, in the Phase II building, scheduled to open in summer 2007. Regarding library facilities, three projects need to be completed:

- As currently planned, the Arlington Campus Library should be completed in 2007. With appropriate staffing levels, local collections, and programmatic service enhancements it will materially contribute to the development and success of the campus' resident academic programs.
- A new library facility is required at the Fairfax campus (an addition to Fenwick Library). This building, optimally in the range of 250,000 - 300,000 sq. ft. (gross), is envisioned as housing all main, research library service points, library user areas, library staff offices and work areas, technology clusters and other defined spaces for both individual and group learning and research, and increased space for continually growing collections (general and specialized).
- The Prince William campus' master planning process should include provision for a new, expanded library facility. The new library could be part of a student center/academic services type of building, or a part of an academic/research building.

Technology

University Libraries will continue to position itself as a leader in the use of information technology. Recognizing the long-term challenge of archiving/preserving digital information, the library is currently developing the Mason Archival Repository Service and is a participant in the international LOCKSS (digital archiving) project that originated at Stanford University. The library is meeting the challenge of system interoperability on several fronts—adoption of UNICODE for major systems, adherence to emerging standards in the field, and adoption of new technologies (like OpenURL) that enable linking to content across multiple systems. Future projects will include development of specialized research portals, pathways, or “views” tailored to specific disciplines for access to and delivery of digital scholarly content. Overall, future library information technology will involve three general tasks:

- University Libraries will build upon its robust platform for access and delivery of scholarly content and will focus on the interoperability of its systems with other digital libraries and collections.
- The library will develop specialized research portals, or views, customized to the needs of specific academic programs.
- By 2010, University Libraries will have developed a robust and mature “digital library” presence, continuing to meet the challenge of reliable, long-term archiving and preservation of digital collections and “objects” through its new Mason Archival Repository Service (MARS), inter-institutional partnerships, and other efforts.

Library Consortia

Mason derives considerable benefit from the University Libraries’ active participation in library consortia at the local level (the Washington Research Library Consortium), at the state-level (VIVA -- The Virtual Library of Virginia), at the regional level (the Association of Southeastern Research Libraries) and at the national level (the Center for Research Libraries). Each affiliation enables participation in a distinctive set of resource sharing arrangements, including on-site access, reciprocal no-charge interlibrary loan/document delivery and cooperative electronic resource purchasing, as well as in opportunities for library staff professional growth and networking. The library should consider broadening its consortial relationships, in particular to address the University’s emerging international

program component, to organizations such as the Research Libraries Group and/or other entities abroad. Generally, with respect to library consortia:

- University Libraries will continually monitor the costs and benefits of Mason's participation, and will ensure that consortial affiliations are leveraged to maximize the availability of scholarly resources and associated services to Mason's academic community, as well as other accruing library administrative benefits (e.g., collaborative purchases or licensing, technology enhancement, access to expertise, remote storage of collections).
- University Libraries will explore the costs and benefits of membership in other organizations (e.g., Research Libraries Group), in addition to maintaining its current library consortial affiliations.

Funding & Fundraising

In order to increase the University Libraries' capacity to provide vital scholarly content (in various forms and formats), and for innovative library services and programs to be strengthened and sustained, increased funding is required. The institutional (E&G) base budget requirement for the library will need to increase by a total of \$6M by fiscal year 2010. Regular, additional funding, phased in each year, is required to provide:

Research Materials -- \$3.3M for research materials (\$2.1M of which will be needed to cover projected library materials inflation costs and \$1.2M for augmenting the library's collection development program; 2006 – 2008: \$1.55M, 2008-2010: \$1.75M);

Staffing -- \$2.3M for increased library staffing, including 14 professional faculty (librarians), one administrative faculty, 18 classified staff, and additional funds for Graduate Research Assistants and Wages personnel (2006 – 2008: \$1.13M, 2008 – 2010: \$1.18M);

Other requirements -- approximately \$0.5M will be required for supporting increased library staff levels, to defray increased costs of processing of collections and other information management activities, and other library direct operational costs (2006 – 2008: \$0.19M, 2008 – 2010: \$0.22M).

Concurrently, the library needs to become a University-level priority for focused fund-raising, especially related to facilities expansion and creation of significant endowments for research materials so that excellence can be achieved and sustained long term. These goals need to be supported through a focused and sustained fund-raising drive for the planned library facilities expansion (with naming opportunities serving as a driver) and through the creation of library materials endowments in conjunction with named professorships (among other approaches). With this level of University commitment and support, the library will aggressively pursue development opportunities including monetary gifts, grant-funding, and in-kind gifts. Further, such efforts will be aided by the library's experience with other revenue streams, such as research services for members of the business community.

In summary, the recommended institutional financial and fund-raising priorities are:

- University Libraries will require increased institutional budget allocations of \$6M by FY2010 for collections and electronic access, additional personnel (professional and support), and other related direct expenditures.
- The University Libraries' physical expansion needs must become foci of the University's second comprehensive fundraising campaign.
- To ensure long-term excellence in library research materials availability, Mason named professorships will need to have a certain portion of the endowment dedicated as "library" endowment.

* * * * *

The task force recognizes that University Libraries has demonstrated clear vision and leadership in the development of its resources and services, competently addressing current and emerging academic and research capabilities, and effectively positioning itself to be an effective partner and trusted collaborator of the University's schools and colleges. The consideration and adoption of the recommendations for the library presented by the task force are integral to Mason reaching maturity as a graduate-level and research university, supporting its international and global initiatives, contributing materially to the success of faculty and students at the distributed campuses, and continuing to capitalize on

information technology to enhance the teaching, learning, and research activities of the University.

INTRODUCTION

This is the report and recommendations of the President's Library Task Force. The task force was appointed by President Alan Merten at the start of the fall semester 2004 with the following charge:

The 2010 academic plans call for growth in the University's enrollment, program offerings, sponsored research, and overall quality. Given these goals, describe where the library needs to be in 2010 with respect to collections, electronic access, staff, physical facilities, services, functional expertise and fund raising. Develop interim goals for 2006 and 2008 that will significantly advance the library towards the 2010 vision. Assess the relationships and contracts the library has with consortia with respect to their actual and potential contributions to goal attainment versus alternatives.

The seventeen members of the task force worked throughout the fall semester and early spring semester 2005 to develop an understanding of the University Libraries' performance and, consistent with President Merten's charge, to assess options for the future. The task force's work was aided by detailed information in the areas of library collections and e-resources, services, facilities, consortia, operations, programs, and funding provided by library staff.

As referenced in President Merten's charge, the impetus for the task force was the University's planning activity for 2010. The members of the task force reviewed the "2010 plans" as submitted by the academic units to Provost Peter Stearns. There was consensus among the members that at least four broad themes emerged from these reports:

- technology;
- internationalization/globalization;
- research; and
- distributed university.

These four broad themes or factors, along with other stated goals of the 2010 plan (e.g., enrollment growth; academic program growth, including new doctoral programs; and

overall quality improvement), formed the basis of the task force's deliberations and, accordingly, had implications for planning of future library resources and services.

To offer a sense of the inter-connectedness of the issues involved, following are a few brief samples from the task force's dialogue: what are the implications for the library as Mason continues to "go digital?"; furthermore, what might they be for the library as the University continues to "go global?" A digital university is accessible 24/7 to students, faculty, and even the professional community and general public that make use of the university's libraries. Information technology is the backbone of University operations from student records management, to financial and personnel records, to sophisticated tools for data analysis and research inquiries. Also, "go global" implies an international university, faculty and students working around the world, a highly diverse campus profile with multiple research interests consistent with that diversity, and a general disposition to be inclusive of all matters international. The "research university" and sponsored research theme continues Mason's quest to serve as the research hub for selected academic areas in the National Capital region. Exploring these themes and associated goals individually, as well as their interactions, the task force concluded that they are also foundational to the future success of the University's library system.

Technology-enhanced University

The "technology" theme is that the academic units desire to continue Mason's past practices of becoming progressively more "digital," signifying that information technology and digital content will continue to serve as a central theme in the University's future. The library consistently demonstrates campus initiative and leadership in the adoption and application of information technology to deliver scholarly resources and to facilitate a wide range of library services. It has kept abreast of library information technology developments, making innovative use of technology in ways that respond to Mason's particular needs, with such innovative work in some instances serving as a model for other higher education institutions. With modest enhancements -- personnel and further systems development -- the library's information technology component will continue to expand, serving Mason robustly toward 2010 and beyond.

International and Global Orientation

The second broad theme is that the academic programs intend to accelerate the University's "global" presence. The program plans include numerous references to the University's future in the international arena on many fronts, including new programs, a campus in the United Arab Emirates, and the increasingly international student profile. With regard to scholarly information, the needs of Mason faculty and students require: (a) local collections in many languages and formats, with particular attention paid to digital and unique archival materials, and (b) reaching out to library collections and other providers of scholarly information around the country and the world. Conversely, requests for assistance from researchers around the world are already coming to University Libraries. Mason's international academic program orientation and presence has implications for the Library: the collections will no longer suffice to be largely in English as is the case now; there needs to be a much broader level of linguistic expertise among library staff; and additional links for sharing of resources with other research libraries, here or abroad, through consortia or institution-to-institution agreement, will need to be developed.

Research University

The third theme is escalating the University's continuous progress toward its growing reputation as a research university, and all that entails in terms of faculty and student scholarship, external support of research activity, influencing of policy and practice, and development of new graduate degree programs (with better funded graduate students) that serve the region, the nation, and the world. The research university theme has significant implications for: the (expanding and deepening) levels of library collecting (print and digital) and making these resources readily accessible; selecting, organizing and making accessible in a convenient manner relevant ("free") scholarly information available in digital form from various entities via the Internet/World Wide Web; expanding the subject/discipline expertise of librarians; broadening the linguistic skills of library staff; increasing overall staffing; and enlarging library facilities. In short, the library will be required to achieve significant upgrades in all of these areas in order to ensure access to

knowledge that is consistent with a digitally advanced, internationally-oriented research university.

Mason as a Distributed University

The theme of Mason functioning on the basis of a model distributed university has become more real: with the increasing physical and academic program development of the Arlington and Prince William campuses, each in many instances with primary academic foci; with the planning for new sites in the Northern Virginia region (Point of View, Loudoun and Belmont Bay); the RAK campus in the UAE; and the increasing number of programs abroad (e.g., the School of Public Policy's degree program in India, ICAR's academic connections to Ukraine, and envisaged future Mason academic programs and affiliations in East Asia). The distributed nature of Mason is another challenge for the library: to provide adequate research materials and support and service to students and faculty irrespective of the Mason site or distance education mode from which they work.

With the library's heretofore aggressive embrace of information technology and digital content, networking of scholarly information assures its availability at multiple sites around the clock. The development of library (print and other format) collections and other *in situ* library services at the Arlington and Prince William libraries also contribute to meeting the needs of Mason's academic programs at those sites. Other library digital initiatives (e.g., virtual reference, electronic delivery of journal articles previously accessible only in print, electronic course reserves, requesting of materials online, etc.), coupled with an inter-campus delivery of library materials via reliable courier service, provide further support for students and faculty who are not regularly on the Fairfax campus.

However, as the University's "distributed" component grows, expectations for services grow correspondingly. For the library system to succeed in meeting the needs of academic programs irrespective of location, more resources will be required for the distributed libraries, as well as for Fenwick (the main library), to achieve the required infrastructure

for serving students and faculty at the point of need – on-site, digitally, and through a combination of staff “mediated” processes.

The Mason Libraries in 2010 and Beyond

As is characteristic of the academic research library -- today and for the foreseeable future -- multiple pathways or parallel approaches need to be employed for the continuous development and management of scholarly resources (whether print, electronic, or other formats), for making them accessible, for instructing in their discovery, and assisting with their use in teaching, learning, research, and service. In this context, a second level of concepts emerges that is specific to the future challenges of the Mason libraries: 1) information management; 2) knowledge management; and 3) new roles for librarians that reflect an accelerated evolution from the past.

Information Management

Traditionally the core function of the academic research library has been to select, acquire, organize, preserve, and make accessible recorded information in whatever form or format. Today’s information environment is very much dependent on information technology to package, store, and provide access to a multitude of information resources. The academic library’s information landscape is a continuum ranging from information retrieval systems that organize and provide access to databases about information (e.g., online catalogs, indexing and abstracting databases, etc.) to delivering the actual information itself (e.g., various kinds of full-text databases, e-journals, e-books, and other types of digital collections converted from physical or analog formats or created digitally). Whether the system involved is an online catalog, an online database, the World Wide Web, or search engines such as Yahoo or Google, they all function at the level of information management – collecting, recording, codifying, classifying, and organizing for optimal access and retrieval. These processes clearly increase the end user’s access to information. And Mason’s library has been diligent in creating information retrieval systems and populating them with digital scholarly content, as well as “pointers” to scholarly materials in non-digital formats.

In this dimension, the information management role and functions of the library and its staff are critical and will continue. But as essential as this is, it is not sufficient – information management *per se* does not provide value-added assistance or insights to the user. It does not necessarily, by itself, contribute to the discovery and gain of knowledge, or to the creation of new knowledge. It is up to the user, who often is guided by a librarian (because of their subject knowledge and expertise and/or their development of research portals or other discovery tools) to determine the best information source for a particular information need.

Knowledge Management

Information processed into knowledge becomes useful and provides utility. This is true both in the realms of explicit, and implicit or tacit knowledge.¹ And, as is true in almost all aspects of life, effective teaching, learning and research require a combination of explicit and tacit knowledge. This is why the core library function of information management must be refined, enhanced and articulated throughout the library's programs and services (including reference, instruction and research consultation), so that emphasis is placed on guiding and assisting students and faculty in the exploitation of information resources to the fullest extent possible in their teaching, learning, and research activities. With the continuous explosion of information and knowledge, and the unabated proliferation of their dissemination in a variety of formats, libraries and librarians (most especially in research level universities) need to bring specialization and expertise to the various aspects of information and knowledge management.

“Knowledge management” has been conceptualized in a variety of ways. The term is often used to describe a set of processes and strategies by which an organization generates, captures, shares, and communicates expertise and know-how that may contribute to its overall success, productivity and effectiveness. Knowledge management has relevance to

¹ Explicit knowledge is that which has been codified or recorded in some format and, therefore, can be shared and distributed through artifacts that can be managed. Implicit, or tacit, knowledge refers to expertise that has been gained through experience, interacting with others, or through experimentation or trial and error. Tacit knowledge resides with individuals only; it is not clearly articulated, codified or documented, or disseminated to others. It is this latter kind of knowledge that typically is not readily available or cannot be easily retrieved by others when needed.

higher education. In the academic research library context, it is conceiving of scholarly information in ways that make it as accessible and as useful as possible for its academic community -- in the form, at the time, and at the place of their choosing or need. This requires not just finding, selecting, organizing, and managing scholarly information (functions and roles in which librarians excel), but creating and managing knowledge as well.²

Viewed from this perspective, knowledge management offers opportunities for expanded roles for librarians and new relationships with information providers and even library consortia. Such a role minimally entails educating the University community about scholarly communication issues. Knowledge management, however, also indicates new expectations for our students and faculty as knowledge managers in their own right, and integration of information literacy/fluency and research in appropriate courses at all levels of academic programs. The latter would be a challenging undertaking, but with potentially significant educational outcomes. The task force can imagine an undergraduate student at Mason continuously building upon learning from one course to the next, becoming increasingly information literate/fluent, in a general and discipline-specific sense, achieving the expectations of faculty to become proficient knowledge managers, even creators of new knowledge. Such a trajectory could be maintained by a student through a graduate program, or even begin with an incoming graduate student. However, this assumes a programmatic, institutional “view” of information literacy/fluency and learning outcomes that will need to be further developed at Mason.

Thus, the role of the library in the education and research process is indispensable, as is the “teaching” role (whether surrogate or actual faculty) of the librarian. In short, the library serves as the scholarly information organizer and, potentially, knowledge manager of the institution.

² The recognition by University Libraries that user-centric portals, discipline-specific tools, tools for the critical evaluation of sources, and a digital institutional repository for capturing faculty research, such as working papers, need to be developed highlight its embrace of some aspects of knowledge management.

New Roles for Librarians

Finally, a continuation of the information and knowledge management role of librarians affects the relationship between the instructional faculty and the librarians (who themselves are *professional* faculty at Mason) – a relationship that must become closer than has been practiced in the past. In the current deployment of librarians there are liaisons to each academic unit and/or program. However, in the task force’s deliberations it became clearer that this connection needs to be augmented and strengthened. Such an outlook points to librarians as the first knowledge managers for the University. This is not necessarily an altogether new role. Librarians indeed have fulfilled and continue to fulfill this institutional role throughout higher education. While that may not be a conception that is seen as much different than practiced today, in the future librarians need to bridge the continuum of information management and knowledge management in ways that they will be closely aligned with the faculty in the disciplines, rather than the more prevalent current practice of the more or less “generalist” librarian serving many academic units or programs in some specified capacities.

Preparing our students to be knowledge managers and competent “literature” researchers will require the librarians to be connected to the academic programs more closely, even to the extent of participating in selected courses where the skills of knowledge management are taught to the students and the librarians are working side-by-side with the faculty member for some portion of the course. In a sense, librarians will become “intellectual partners” in the education of Mason’s students. They will work to provide students with the best information accessible through University Libraries in as few steps as possible, to streamline the research process, in order to produce a higher quality product. The members of the task force can well imagine the library supporting the professional development of the faculty and staff in academic departments through its appropriate research and instructional components.

* * * * *

The present time of University-wide planning to chart Mason's future direction provides a major opportunity to make consequential investments in the libraries. Wider and growing electronic resource availability, previous strategic investment for print and digital collections, current library staff expertise, and library consortial partnerships mean that dollars invested will go much further than they might have some time ago towards a large jump in the University Libraries' capabilities. The evolving scholarly information environment continues to require additional investments, but the mixture of these investments in technology, personnel and in actual "content" sources will certainly be different in the future than it has been in the past.³

The following sections of the report discuss key programmatic areas for the libraries, along with recommendations for future directions.

³ Alongside a flourishing, world-wide book and other formats publishing/dissemination of information, there is also an exponential increase of both the availability and cost of scholarly/research digital materials. Other emerging developments (e.g., the recent announcements by Google of its intent to digitize significant portions of book holdings from major American research libraries, and the subsequent announcement by France's Bibliotheque Nationale for the need to undertake similar projects for non-English language European imprints) are indicative of the "turbulent," but definitely positive direction of attempts to make some the world's most important library holdings widely available through digital means.

LIBRARY COLLECTIONS & ELECTRONIC ACCESS

It has taken George Mason, first as a college and then as a university, 45 years to acquire a library collection of one million volumes.⁴ A natural, perhaps even tempting question is: How long might it take to reach a two million volume library collection? Will we (should we) reach a three million volume library? As interesting as such speculation might be, and considering the rapid expansion and acceptance of electronic formats, title or volume numbers alone will almost certainly not continue to be the most pertinent metric with which to assess a university's scholarly information base very far into the future.

This is not to say that book-form materials are no longer published or required; it appears that for the foreseeable future they will continue generally to be an important feature of the scholarly communication landscape worldwide. It is to say, however, that there is convincing evidence that the scholarly communication process itself is undergoing a fundamental shift – one that is already being posited as historically significant as that of the invention of the movable press in its meaning and impact.

Consequently, it is imperative that decisions regarding library research materials be informed by such developments and considerations. While we seem to have a realistic glimpse of the future, it is also true that we are still at quite a distance from being there. So, as a practical matter Mason must continue to plan for and work with a digitally enhanced library, as well as appropriately positioning the University for the predicted, but as yet not experienced, future of the totally digital library.

In 1996, the Johnson Center arguably accrued George Mason a distinction, separating Mason from other institutions of higher education and becoming a model for the then innovative view of library/user interface. Many in Mason's academic community consider

⁴ By comparison it took the University of Maryland – College Park 100 years to reach its first one million volumes, 20 years to reach two million, and just over ten years to reach three million.

this a “leap-frog” over other universities by co-locating student life and academic life, and especially in a student center. In a similar way today, perhaps Mason needs a new model that “leap-frogs” other institutions again, but this time to make available and provide access to knowledge that is consistent with the requirements of a research university.⁵

This does not necessarily mean dramatically increasing the library’s holdings of physical materials to be commensurate with that of other university libraries that had many more decades, if not a century or more, to develop. In 2005, George Mason has 1.2 million volumes, but ranks 5th among the six doctoral universities in Virginia on this metric. However, Mason’s library today is much better, both quantitatively and qualitatively, than this statistic might convey, probably ranking 3rd among university libraries in the state, when digital resources are added to the overall metric of library holdings. Therefore, an appropriate and realistic goal is to increase access to (and preserve) the best knowledge a field has to offer, irrespective of the format in which such recorded knowledge is available.

An Assessment and Future Needs

The library system has made great strides in developing collections that address the instructional and, gradually, the research needs of students and faculty. Particular current strengths are the acquisitions program for *monographs* (current imprints) and *electronic resources* (databases, online journals and, increasingly, e-books). Because the library had not been heavily invested in print journal subscriptions, it largely avoided the most debilitating impact of inflation costs of the last decade or more that caused most university libraries to institute painful rounds of journal cancellations. This has allowed Mason to achieve a healthy rate of book acquisitions, as well as make significant gains in access to and ownership of electronic collections. Since 1994, generally good local library acquisitions budget support has been supplemented by invaluable resources offered through the steady growth of the state-wide Virtual Library of Virginia (VIVA) program. In addition, participation in library consortia-based licenses greatly leverage available dollars, and several *ad-hoc* partnerships with other Virginia universities to acquire science,

⁵ In a number of library surveys, faculty consistently expressed a continuing need for the libraries to build broad and deep collections to enable and support research.

technology, and medicine (STM) e-journals offer similar benefits as with consortia-based procurements. Overall, the Mason academic community currently enjoys access to nearly 500 databases (bibliographic and full-text), 18,500 unique e-journals, 3,650 e-proceedings, and 45,000 e-books.

One visible limitation of the library's collection is that it is overwhelmingly Anglo-phone in nature. Consistent with the University's global dimension and aspirations, it is evident that the library needs to begin collecting more broadly publications in foreign languages (focusing on digital formats as available/appropriate), emphasizing education programs and research areas of the University, as well as more concentrated collecting in "area studies" programs, themselves.

The collection of documents and maps in Fenwick Library issued by government agencies (federal and Virginia), including electronic counterparts, is quite good. At the Arlington Campus Library, progress has been made in acquiring materials of European Union agencies in print, microtext and online forms. The areas that we are lacking in relate to United Nations organization agency materials, other international organizations (e.g., World Trade Organization, World Health Organization), as well important non-governmental organizations (NGOs) of international scope. These latter shortcomings must also be addressed consistent with the University's education and research programs.

Special Collections has been growing significantly, and continues to be primarily archives-based (i.e. manuscript, personal papers, graphic materials, oral histories, etc.) in its holdings. Expansion will need to continue because it is a singular way of achieving broader research library visibility for Mason and it enhances the opportunity for students/faculty to pursue research projects using original sources/materials. It is still the case that the relatively small amount of unique, original scholarly materials held by a library is what often establishes its reputation – or at least becomes one of the things for which it is better known. Thus, Special Collections will continue to develop along several dimensions, including acquisition of scarce/rare specialized books, digitization of original materials (for preservation and wider access), and increasingly become a destination for

research by advanced students, faculty and scholars from far beyond Mason and the region. Already, we have established a pathway toward this direction through leadership in digitization (though admittedly small when compared to such projects at the major research institutions) and Encoded Archival Description, which is making us known to the wider, international scholarly community.

The immediate task presented by the 2010 academic plan is to maintain ongoing library research materials support for existing academic programs, and enhancing it as current units expand their programs and research focus, such as Mathematics, Political Science, and Health Science. Additionally, the library must focus on building research collections in new areas of University academic/research focus, such as Biomedicine, Bio-defense, and Neuroscience. These are certainly doable, but it will require increased financial support and other resources such as space and staff expertise.

A complicating feature with respect to library collections is Mason's distributed campus environment and, hence, our distributed library system. The growth of academic programs at both the Prince William and Arlington campuses and the forthcoming branch in Loudoun, as well as the opening of the UAE campus, distribute teaching, learning, and research to five distinct locations. To ensure that all students and faculty derive maximum benefit from library resources, the library's collection is conceived of as a unified whole with centers of distinctive strength at each of the physical locations. One of the challenges is to decide what the library at each site will hold as resident. For financial and space reasons, it is neither possible nor prudent to replicate "book form" holdings in any large-scale way from one site to the next. Therefore, it makes both economic and academic sense to fully support instruction level activities while continuing to build library collections that support the major research-focused programs found at each site (robustly developing such areas as bio- and computational sciences and bio-defense at the Prince William campus and a broadly defined public policy and international "topics" library at the Arlington campus, in addition to the Law Library).

By emphasizing electronic networked resources whenever possible and appropriate, the library is able to solve part of the challenge inherent in Mason's distributed university environment. By continuing to develop a central, main research library (Fenwick Library) it is possible to serve the needs of the non-Fairfax locations through a robust, reliable inter-campus library materials delivery system. Through these multiple strategies it is feasible to grow the libraries along the same growth trajectories as the academic and research programs of Mason.

Beyond these considerations, the future direction of library activities in this area entails the following:

- management of both local physical and subscribed digital collections;
- “organizing” the greater world of “free” scholarly resources available through the Internet/Web (from government, foundations and think tanks, universities, professional and scholarly societies, museums, and other cultural organizations);
- incorporating “open access” available materials, including “pre-print” and “post-print” services;
- providing technology for federated (seamless) searching and exploration across disparate resources and technology platforms;
- and ensuring preservation and ongoing accessibility (including digital archiving) of scholarly materials irrespective of format.

The overall challenge for Mason's library is to remain even with, and perhaps reasonably ahead of, the curve of the explosion in availability of scholarly/research content – still, and for the foreseeable future, available only for purchase. This means continued steady building of print collections approximating current collecting levels, while greatly intensifying collections of digital content.

LIBRARY SERVICES

There is an excellent foundation for provision of multi-tiered library services to the diverse Mason academic community. These include the many functions that generally fall under the rubric of access services such as circulation, course reserve, the borrowing/loan service of the Washington Research Library Consortium, on-site use of collections, access to technology for using digital collections (including in-house assistive technology for disabled persons). Staff mediated services include reference, research consultation, library instruction, and interlibrary loan/document delivery (including Mason inter-campus delivery of library materials).

The Liaison Librarian Program, which currently is undergoing programmatic enhancement, is a most visible service to academic departments/programs. Within assigned areas, librarians work collaboratively with faculty in matters of library collection development, offering specialized reference and research consultation, providing instruction (general and discipline-specific) to undergraduate and graduate students through courses, and engaging in outreach/marketing of library resources and services.

Library instruction has been undergoing gradual transformation, from a bibliographic (i.e. research tools) orientation toward a new model that is an acknowledged best practice, termed “information literacy or information fluency.” It is a process-oriented, developmental approach aiming to develop student skills in dealing with the complexities of the contemporary information landscape, ranging from conventional library research, research using authoritative electronic databases, to doing research through the Internet/Web. Its precepts include conceptual knowledge and skill development in identifying information needs, searching for and finding information, evaluating sources and authenticity of information critically, applying information found/selected appropriately, managing information (e.g., using bibliographic management citation software such as EndNote), and considering ethical (e.g., plagiarism and responsible use of data) and legal (e.g., copyright) issues in the information realm. While not all of the 400 library instruction sessions offered annually incorporate this approach, the library is already working with a number of courses, most prominently Eng. 302, to systematically

provide this type of library instruction. Discussions have also begun over the possibility of an eventual formal library instruction presence in selected General Education curriculum approved courses.

The library also provides a number of special programs/services to students, faculty and staff of the University. These include: copyright consultation and assistance through the Copyright Office; instruction and assistance to graduate students and sponsoring faculty committees through the University Thesis and Dissertation Services; official University records retention and disposition (which is a state legal requirement and a delegated responsibility from the Office of the President) through the Records Management Service; and instruction, research consultation and support for quantitative and qualitative analysis through the Statistical Support Service.

Many of the library's services and resources are available and delivered online. Besides digital collections (databases, e-journals and e-books), these include: chat or "virtual" reference, first inaugurated locally but now offered in partnership with other WRLC universities; electronic course reserves; requesting (borrowing) and delivery of library materials (through PDF postings) within WRLC; submission of Mason inter-campus and interlibrary (non-WRLC institutions) loan requests, and online renewal of borrowed materials.

Periodic library service assessments (through surveys, focus groups, and other means) have shown a generally high level of satisfaction of student and faculty respondents with the array of services provided by the library. While faculty have indicated particular satisfaction with the liaison librarian program and its component services, students reserve special satisfaction for reference services, electronic resources, and the quality customer service provided by front-line staff. Although of more focused scope and impact, all of the University Libraries' special programs/services consistently receive a high degree of satisfaction from their users. The recent library planning, assessment, and organizational development program initiative will allow for a more concerted and sustained approach of evaluating library programs and services.

One principal consideration is how to maximize the “higher end” of library services across the disciplines/academic units. The libraries principally for economic efficiency reasons will continue to be organized/managed to provide “self-assisted or self-service” patron services for many functions (e.g., circulation, searching of the catalog and databases, document delivery, etc.) However, it is also clearly recognized that a degree of customization of services for certain patron groups and/or academic units (such as the in-depth research consultation support currently provided to doctoral students and faculty) is also required. These might include support for distance learning programs, alerting services for new content, and possibly fee-based services for external users.

The library’s academic constituency is diverse and has become increasingly specialized. The demand for specialized reference and direct research consultation/assistance is increasing. Hence, this challenge: in what instances and in what ways can the libraries deliver specialized modes of services to selected groups within the University? Fortunately, through the nexus of information technology and librarian mediation/expertise, one avenue now possible is to create specialized research portals, pathways, or “views” tailored to specific disciplines. Library services would be developed on the basis of active partnerships and collaborations with client groups to address their specific needs.

As with Collections & Electronic Access, the services component of the library program requires augmentation (quantitative dimension) and strengthening (qualitative dimensions) for the libraries to be instrumental in assisting the academic units to reach their 2010 and beyond goals.

LIBRARY STAFFING and FUNCTIONAL EXPERTISE

The development of the University's library system into a recognizable and acknowledged research-level library requires staffing configurations that reflect both quantitative and qualitative norms. The libraries continue to require additional numbers of personnel in both professional and support roles. Although it should be acknowledged that additional library staffing has been funded by the University, it is important to note that the lion's share of added library positions were provided due to the opening of three new libraries (Johnson Center in 1996; Prince William in 1997; and Arlington in 1999) or to staff new University-wide services such as Copyright, Thesis and Dissertations, and Statistical Support that the library was asked to organize and make available to the Mason faculty and students. Only a limited number of new positions were provided to alleviate serious "infrastructure" gaps in the overall library organization, such as: increasing the number of liaison librarians; having an adequate number of technical staff to cope with the ever increasing workloads and complexity relating to collection and digital resource management activities (procurement, licensing, cataloging/metadata development, and preservation); document delivery functions; and various other support needs.⁶

More specifically in the area of "information management," much of the massive amount of required effort to bring together in a seamless presentation the vast array of owned, subscribed/licensed, free and fugitive digital content needs to be done by a next wave of library staff: librarians who are subject specialists as well as advanced digital "cataloguers." These attributes may reside coincidentally within the same individuals or, most likely, will be actuated through staff teams.

In recent years concentrated efforts were initiated to recruit, retain and develop library staff who not only have the overall skills, suitability and individual attributes for fulfilling a variety of reference, library instruction, and other technical functions, but also to broaden and deepen the levels of expertise and experience among librarians. Continuing attention to staff recruitment, development and retention remains an essential task of Library Administration and library line

⁶ In FY99-20: 3 positions, and in FY04-05: 3 positions.

managers, with the now added requirement that a substantial portion of the library's personnel needs to be at a much higher level with respect to:

- librarianship domain knowledge;
- subject/discipline expertise;
- information technology capability; and
- specialized training, experience and skill in the *modus operandi* of a large research oriented library enterprise.

Recognizing that this needs to be accomplished within the highly competitive arena of the Washington DC Metropolitan Area (e.g., national libraries, other university libraries, and specialized information agencies), and also because expert knowledge and skill is required, a generally marked improvement in the compensation system of the University Libraries is necessary, including targeting key library positions for higher-end market salary “industry” parity.

In sum, additional library personnel who are better compensated are required so that the library can effectively respond to the University's overall growth, quality improvement, research intensive focus, and international-global programming dimensions.

New Roles for Librarians

A major implication for the libraries of the 2010 themes is that the relationship between the instructional/research faculty and the librarians (who themselves are *professional* faculty) must become closer than has been generally the practice in the past. In the current deployment of librarians there are liaisons to each academic unit and/or program. However, in the task force's deliberations it has become clearer that this relationship needs to be strengthened and the numbers of librarians in these roles needs to increase. A presumption of the 2010 plan clearly opens up the opportunity for librarians to be not only the “information” managers, but also to become the first “knowledge” managers for the University. This is not an altogether new role – it is one of degree and emphasis. A potential closer alignment of librarians with academic programs and faculty does indeed mean a qualitative difference in librarians' responsibilities in

the future. For a glimpse of such higher end librarian engagement already occurring at Mason, see Appendices III (vignettes of librarians collaborating intensively with graduate students and faculty on curricular and research projects) and IV (a graduate student internship project in Special Collections & Archives working with original research materials).

Preparing students to become information literate/fluent and able knowledge managers will require the librarians to work with the academic programs more closely, including actively participating in selected courses where the skills of knowledge management are taught to the students and the librarians are working side-by-side with the faculty member for some portion of the course. In a sense, librarians will become “intellectual partners” in the education of our students. They will work to provide students with access to the best information accessible through the libraries in as few steps as possible, to streamline the research process to produce a higher educational experience and quality product. The members of the task force can imagine the library contributing to the professional development of the faculty and staff in the disciplines more directly.

Given the demands of a research-level library, librarian staffing configurations, in particular, must not only reflect the entire span of library functions, but also be at a high level of experience and specialization/expertise. Liaison librarian roles (advanced reference-research consultation, instruction, collection development/management, and outreach) are now integrated into a library system-wide program. A further logical step is for liaison librarians to become more like “adjunct” faculty in assigned academic areas, signifying not only closer ties but different relationships with instructional faculty than the current model allows. Thus, this augmented role would clearly encompass:

- acting in an authoritative information broker capacity for disparate analog and digital scholarly resources (including managing “external” collections);
- being recognized and accepted as discipline-based information experts;
- operating as information scientists; and

- engaging in significant outreach and marketing activity to students and faculty within in the academic program(s) served.⁷

Where appropriate and otherwise qualified, librarians might have joint library-academic department appointments, based on a “librarian-faculty” model. Conceiving the strengthened role as a continuum, librarians would collaborate actively with instructional-research faculty in the curriculum and research domains, and would participate more directly in the education of students and the teaching and research activities of faculty colleagues.⁸ Conversely, instructional faculty may be released as “faculty-librarians” to the library to undertake specific projects that would be of benefit to both the libraries and the affected academic programs.

⁷ An aspect of this augmented librarian role is the “bibliographer” model typically found at the largest university libraries. The conventional focus of such positions is library collection development defined broadly. Such librarians, however, because of their academic background and research librarianship mantle invariably function as auxiliary instructional/research faculty in their areas of specialization.

⁸ Information literacy/fluency is an area that requires concentrated attention. Like technological skills (currently encompassed in the Technology across the Curriculum program), information fluency needs to be integrated sequentially throughout the undergraduate curriculum - - progressively more complex abilities need to be developed by students. Current library initiatives to partner with writing courses for this purpose need to be expanded and formalized as part of the General Education requirements.

LIBRARY FACILITIES

Both the heretofore and planned growth of the University require an expansion of current library facilities along dimensions of additional space and program development within it that will enable and fulfill evolving models of teaching, learning and research of students and faculty. Most of the libraries have now reached their functional limit, i.e. they are at 85% or more of collection capacity. Library staff continue to work creatively to maximize available space for collections and other library uses, most notably through the ongoing renovation of Fenwick, relocation of discipline-based and other collections to library units with relatively more unoccupied space (e.g., Johnson Center received Biography, Education and Music materials from Fenwick, and the Arlington campus library houses older bound periodicals from both Fenwick and Prince William libraries).⁹ This has allowed the retention within the University of relatively newer, frequently used book and journal collections. The alternative would have been to relocate such material to the remote storage facility operated by the Washington Research Library Consortium (WRLC) and rely on its consortial loan service to gain access to these materials when needed by students and faculty. Although remote storage with WRLC's reliable delivery service is an appropriate option for infrequently used materials, it is not an ideal option for core library collections as most of George Mason's book form library holdings tend to be.

In three or so years, however, it is projected that the libraries will be at nearly 100% collection capacity. Managing physical collections in such circumstances is extremely difficult and expensive, requiring not only loss of additional study space but also constant collection shifts to accommodate new materials. Given the size of our student body (not to mention accreditation issues), there are limitations as to how much of the available space can be turned over to use for collections. Therefore, the need for additional library space is upon us. Fortunately, planning for library expansion on the Arlington and Fairfax campuses is underway.

⁹ Other improvements have also been made: better work spaces for library staff; improvements in service points; and upgrades of space for library users (including expansion of information technology into areas previously unavailable).

Arlington Campus

The Arlington campus library is programmed for 26,000 sq. ft. (net) in the Phase II building that is expected to be completed in summer 2007. This will be slightly more space than the current library has in the original building. Since the new library space will not be shared with the Law Library (as is the case now in the existing library), in effect, it will be a larger library. The new library is planned to accommodate a collection of 100,000 volumes, will have state-of-the-art technology along with the Libraries' networked electronic scholarly resources, will feature appropriate environmental controls (which the current library lacks), and ought to be staffed adequately (in both levels and numbers) to serve the non-Law academic programs located on that campus. This will constitute a major library expansion for this campus, contributing instrumentally to the success of the success of faculty and students and faculty based at this campus.

However, at Arlington there are additional space needs for the Law Library and its needs require attention too. It is recommended that the fourth floor of the Phase I building be seriously considered as expansion space for the Law Library (as it was contemplated originally in the planning of this building).

Fairfax Campus

On the Fairfax campus, a major addition to Fenwick Library is planned. However, a completion date of this building project still remains uncertain. The state has yet to commit funding towards its design and construction. Assuming this funding is allocated relatively soon, it is still possible that the new structure will be ready for occupancy in summer-fall 2009.

Because the original part of Fenwick Library (Wing A and the connector area to Wing B) will eventually be demolished in accordance with the University's Master Plan for the Fairfax campus, this building must be significant in size in order to serve the University's main research library needs well into the future. The task force understands that adequate land has been set aside allowing a footprint to support a building structure of 300,000 - 400,000 sq. ft.

Thus, taking into account the loss of Wing A, strong consideration ought to be given for a new building in the range of 250,000 to 300,000 sq. ft. (gross), with a strong preference that it be built in one phase, not multiple phases. (The current Fenwick complex was designed/build over three phases, resulting in severe limitations with regard to space continuity/coherence and overall functionality – something that ought to be avoided with the new building project if at all possible.)

With the remaining two towers of Fenwick (Wings B and C) essentially serving as book-stacks in the future, the new facility is envisioned to house all library service points, library user areas, library staff and offices and work areas, and technology clusters for individual and group use (including instruction rooms, information and/or research commons configurations, multimedia centers and the like). Teaching and learning spaces for individuals and groups will be given prominence, as will the library research component of the building's mission.

An important, showcase feature will be a state-of-the-art Special Collections & Archives designated area, featuring appropriate reading/research room(s), visiting scholar offices, exhibit area, security and environmental controls for its collections, and a production laboratory/technology for digitization activities. Other contemplated, desired features should include a lecture hall, space for other types of public events, faculty research offices, study carrels for advanced graduate students, and conference rooms – all information technology enabled. The new library facility will also be designed for substantial book form collection expansion (including high density shelving/storage of materials), as well as to accommodate special formats such as microprint, government documents, and multi-media materials as well.

Initiation of a process for preliminary space programming for the new facility is expected to start in spring 2005, with participation of Library, Information Technology, Facilities, and other academic and administrative campus entities. This work will feed naturally into the formal planning and design phase to follow.

Prince William Campus

A recent relocation of library staff offices and work areas outside the library proper will provide some additional space for this library's expanding collections, along with some space for additional seating. It is projected that by 2010 the current Prince William campus library will certainly be functionally full and might also actually run out of space for book form collections. Given its present "land-locked" location in the Occoquan Building there is not available space nearby where it could naturally expand into. Therefore, it is imperative that this campus' master planning process make a new, expanded library facility a priority for the next round of building projects there. The new library could be part of a Student Center type of building or a part of an academic/research building.

Other University Locations

Task force members recognize that the University will likely expand into additional locations in the 2010 time period, including the Mason RAK campus in the United Arab Emirates, Loudoun County, Point of View and Belmont Bay.

Support for the RAK-UAE campus library is the responsibility of our campus partners there. University Libraries will continue to work with the Office of the Provost to ensure that students and faculty of that campus receive adequate library support, consistent with accreditation requirements and George Mason's standards. To the extent possible, and allowed by licensing agreements, it is expected that the students and faculty of this campus will be able to access the library's electronic resources and digital collections over the Internet.

Regarding other University locations in the region, the task force recommends service approaches focusing on use of information technology, and as warranted perhaps adoption of a "circuit" librarian model (for instruction and other in-person library service needs), to support programs at those locations. However, it recognized that the Loudoun county initiative might eventually result into a substantial University presence there which probably will necessitate a library at that location as well.

In conclusion, it should be highlighted that we are not unique in our needs for upgraded and additional space for libraries. The task force identified numerous instances of major renovations of existing library facilities and construction of new ones at universities throughout the nation. Within Virginia both the University of Virginia and the College of William and Mary have recently completed new library construction; in UVA's case the Small Library, a stand-alone special collections and archives library, and in the case of W&M a major addition to its Swem Library (that includes a wing for the Chief Justice Earl Warren library and papers). Christopher Newport University is also constructing a major addition to its library, and James Madison University will be starting a new library construction project soon. Higher education institutions continue to regard the centrality of the library as essential in the education and research enterprise, while merging into it digital format scholarly materials and a variety of information technology components.

Further, as suggested elsewhere in this report, the library building initiatives of Mason represent ideal opportunities for fundraising (naming of libraries and areas within them for example) for the long term benefit of the library program.

LIBRARY TECHNOLOGY

It is likely more than coincidence that the dramatic growth of Mason over the past forty years roughly parallels the development of computers, digital telecommunications and the resultant modern information revolution. In the more particular case of the University Libraries, there can be little doubt that information technology has been an indispensable component in its success thus far.

University Libraries has a well-deserved reputation for favoring early adoption and wide dissemination of information technology and has long served as a regional leader in applying the tools of IT to the tasks of librarianship. The library has also traditionally found itself comparatively understaffed. Taken together these trends have positioned it as an organization that depends heavily upon technology-based solutions to provide the content and services demanded by an ever-growing university. In moving forward as a research-level library, the University Libraries' ability to identify, implement and fully exploit the promise of a variety of technologies will be an important key to continuing success.

Overview of Current Library Technology

Library Technology is at the nexus of several significant trend-lines—Mason's user population grows larger and more distributed each year; the library's content is inexorably shifting toward digital forms; and networks are becoming more robust and ubiquitous. As a result, it is not surprising that each year University Libraries sees an increase in the amount of content and the number of services that are delivered across the network to our users. The physical facilities still host many visitors each day but the scope and volume of networked-based service is significant. During FY2004, the library's website handled well over 18 million requests; the online catalog nearly 16 million searches, and off-campus use of databases and e-journal content averaged more than 2.5 million accesses per month. The Library Systems Office operates a number of enterprise-level servers to support this activity and keeps them in continuous, uninterrupted operation. University Libraries fully understands that for many of their users, the "library" is on their networked desktop computer. Insuring that content and service can be delivered via the network and that the scale of those efforts can be increased is a fundamental principle guiding the planning and operation of the libraries.

Future Library Technology Trends

In areas that might otherwise escape notice, important groundwork for the next level of library service is already being done. For example, recognizing that Mason's library collections will increasingly consist of materials in non-roman languages, the online catalog and other "back-office" subsystems (e.g., Acquisitions, Serials control, and Cataloging) have just been converted for UNICODE compliance—a process that required a complete revision to over one million bibliographic records in the library's database. This action has eliminated problems that for years plagued the manipulation and display of non-English character sets in the online library catalog. The Libraries also recently upgraded the capacity of several infrastructure components to help meet anticipated growth in e-access demand. The remote access server (providing off-campus access to licensed materials for Mason affiliates) has been replaced with a system that improves the capacity and performance of that critical service by several orders of magnitude. Both the UNICODE conversion and improved off-campus access are examples of positioning the libraries to meet newly emerging needs based on the University's activities at our various Virginia sites and in UAE.

Like many other institutions in Mason's peer and aspiring peer groups, the University confronts a host of digital domain issues that will likely persist for many years: the challenge of long-term and reliable preservation of digital objects; open access and networked discovery tools; interoperability with other digital libraries and collections; protecting the investment in digital resources; and so on. A few examples of library activities in this area are informative.

For several years the library has been an active participant in the international Lots of Copies Keep Stuff Safe (LOCKSS) project, which originated at Stanford, which seeks to develop and maintain persistent access preservation for e-journal content. While libraries around the country and the world maintain "back files" of print journals that may no longer be in active publication, the future fate of older e-journals remains very much an open question. Given Mason's reliance on e-content as one of the means to strengthen and build library collections, the library was one of the original beta participants in this program and continues today as an active and committed participant and occasional evangelist in the profession.

Another important initiative is the library's leadership in the creation of the Mason Archival Repository Service (MARS). Based on the DSpace software jointly developed by MIT and Hewlett-Packard, this system is being implemented by University Libraries to provide networked information support to scholarship at the University. In addition, specifically at Mason the design intent of the system is being extended to include the archiving of important digital objects in the library's collection. By linking the MARS system with other archives and digital repositories around the world (via metadata exchange and persistent identifiers) the system will also increase the visibility and utility of objects (learning, scholarly or otherwise) created by Mason researchers, as well as digital content of the library.¹⁰

As noted elsewhere in this report, a focus on knowledge management is expected to be the next major focus of activity in the Library Systems Office (the unit charged with IT issues within University Libraries). The library has done early work on developing user-centric portals (e.g., MyLibrary@Mason) and librarians understand many of the issues surrounding development of systems that address discipline-specific audiences. Interoperability of systems is ultimately the key to success in knowledge management and much time and effort on the part of Systems Office staff is being devoted to various building-block technologies such systems will encompass. The library is accomplishing this through adoption of UNICODE for major systems, adherence to emerging standards in the field, and implementation of new technologies (like MasonLink+) that enable linking to content across multiple systems. Other important work includes participation in WRLC activities on a federated search system (MetaLib) to aid in discovery of relevant materials. As this technology matures it is anticipated that it can be combined with enterprise portal technologies, institutional repository services and traditional online catalogs to provide an intelligent, content-aware interface that varies based on the needs and interests of the individual user or differentiated groups of users. Beyond exploring component technologies the library is maintaining active participation in groups that define the component technology standards within the research library community.

¹⁰ MARS could be an instrument in Mason's support of open access. Mason faculty might deposit their pre-prints and post-prints with MARS, thus enabling researchers around the world to access this scholarly output.

LIBRARY CONSORTIA

A key component of the library's overall program is its several affiliations with other university libraries through consortia. The four most notable are: WRLC (local/regional); VIVA (state-wide); the Association of Southeastern Research Libraries (ASERL); and Center for Research Libraries (CRL). In all four cases, the affiliations accrue tangible benefit to George Mason, and they also enable us as a university to contribute to the broader higher education arena through inter-institutional library collaboration. At the heart of these library consortia are shared resources programs, expressed mainly through means of : consortia licenses for digital resources; priority reciprocal no-charge loaning and borrowing of library materials for students and faculty among members; and sharing of staff expertise for collections, reference, technological and other enhancements of benefit across the participating institutions. Other consortia services might include sharing of library information technology and remote collections storage (as is the case with WRLC).

Each of Mason's library consortium affiliations is discussed separately below. By way of introduction, however, the following general observations can be made:

- All four consortial affiliations serve important needs – Mason is getting great value for the level of expenditures we incur;
- We have become increasingly contributors to our consortial partners -- in at least one dimension – shared resources – we are now also a major “lender” to other consortia members (not just a “borrower” as was the case earlier on);
- Consortia provide a best means of leveraging available dollars through consortia-based licenses for access to electronic materials

Washington Research Library Consortium (WRLC)

WRLC is the library's longest standing consortial affiliation. Through this affiliation, Mason's students and faculty have access – either onsite or through the WRLC-operated consortial loan service – to the combined holdings of area university libraries totaling eight

million volumes.¹¹ Our participation in a number of WRLC licenses provides additional materials in digital format to the Mason academic community.

Additional, significant benefits of our participation in WRLC include: the ALADIN union catalog that makes discovery of library holdings in the consortium possible, and the essential and reliable courier service that makes inter-institutional document delivery feasible (for most requested material there is usually 48-hour turnaround time); the model electronic component of the consortial loan service that enables delivery of journal articles online (through conversion to PDF and notification of availability to users through e-mail); the collaboratively staffed virtual or “chat” reference service of member libraries; and WRLC’s digitization production center which supplements our local capabilities to digitize materials, provide metadata and make this material broadly accessible through the Internet/WWW.

Another important WRLC service is the library storage facility located in Upper Marboro, MD. Compared with other WRLC universities, at present Mason makes limited use of this facility. Currently, University Libraries stores some 11,000 items there, primarily boxes of archival materials added at earlier periods of Mason’s history that are of lesser scholarly value, and superseded sets of reference materials which have historical value. Cognizant of the uncertainties of when actually University Libraries will acquire the necessary additional space, this WRLC program may be of as much critical importance to Mason as it is to other member universities. It may very well serve Mason’s library collection storage needs on an interim or even longer-term basis, as we work to achieve library space adequacy on our campuses.

Mason participates in the governance of WRLC (the University President serves on its Board of Directors), as well as at the level of program and services development. Mason library staff contribute directly to the latter through leadership and service on WRLC committees and task forces. Within the WRLC context, it is important to understand that the inter-university library commitments and provision of services thereof form the essence of the consortium.

¹¹ WRLC’s current members are: American, Catholic, District of Columbia, Gallaudet, George Mason, George Washington, Georgetown, and Marymount Universities.

The central WRLC organization and its staff play a key, catalytic role in the overall success of the cooperative and collaborative endeavor.

Mason's financial contribution toward WRLC's operations is reasonable at this juncture. Considering the actual and potential use of services and programs, it passes the cost-benefit test. However, this was not the case five years ago. As a result of negotiations, the annual fee contribution formula was altered recognizing Mason's more limited use of centrally provided support such as reliance on WRLC's integrated management system for support of library work processes and other library information technology support.

The Virtual Library of Virginia (VIVA)

Now in its tenth year of operation, VIVA has grown into an indispensable, potent force among the Commonwealth's higher education institutions – the publicly supported as well as the privates (independents). With a limited central staff (the central administration is housed at George Mason and the procurement function at James Madison), VIVA has become a model program of inter-institutional collaboration. It conducts its business in a distributed manner through committees with appointed (volunteer) library staff from throughout Virginia – an approach that brings forth not only interest and needed expertise, but also a diversity of perspectives. Thus, with less than 4% of its annual budget allocated for administrative costs, the bulk of VIVA's financial resources go toward purchase of digital scholarly resources that become available throughout the state's universities and colleges and a lesser amount toward the support of an active document delivery program across academic libraries in the state.

As in the case of WRLC, Mason participates in both in VIVA's governance, as well as in the selection of resources and program development. As one of the doctoral universities, Mason has a continuing seat on VIVA's Steering Committee (the University Librarian serves on it). In addition, several other library staff members have contributed or continue to contribute to VIVA's activities through leadership and service on other VIVA committees and workgroups.

In fiscal year 2004-2005, VIVA's combined funding stands at \$6,652,462, including the Virginia General Assembly's allocation, pooled funds from the publics, and pooled funds from

the privates. In addition to in-kind contributions, during the current fiscal year Mason contributed some \$60,000 toward the pooled funds of VIVA. However, in fiscal year 03-04, the value of scholarly material made available by VIVA to George Mason's students and faculty amounted to \$340,000.¹²

Dollar figures aside, of the nearly 500 databases the library makes available to the Mason academic community, currently 161 of them are funded through VIVA. Clearly, the overall VIVA program is an indispensable component of Mason's library services as it is for the other universities in the state.

Association of Southeastern Research Libraries (ASERL)

At least one indicator that Mason's libraries measure up as a research library is qualification for membership in ASERL – an organization of 37 university and 6 state libraries in the southeastern United States. This is not because Mason's library holdings are as numerous as those of the larger ASERL members, many of whom have collections numbering in the several million volumes, but due to the Mason's established commitment to graduate education and also because of the University's continuing effort to maintain a library funding program that reflects that of the other ASERL members.¹³

Because ASERL is spread across eleven southeastern states, it lacks the cohesiveness of WRLC and VIVA. Further, it is a different type of organization with programs that in some cases constitute a library consortium and in other cases resemble a professional association concerned with research library issues and pursuing related projects.

In a library consortium sense, Mason participates mainly in two activities: cooperative licenses for digital resources which are legally executed by SOLINET (a Southeastern region multi-type library network) on behalf of ASERL; and in the reciprocal no-charge interlibrary loan

¹² When calculated based on our FTE relative to VIVA's total budget. In reality, it would have cost Mason much more than this to purchase these resources directly on our own.

¹³ From ASERL's statement on membership criteria: "... [Institutions need to] spend on their libraries annually a minimum of one-half (½) the mean expenditure of member educational institution libraries for total library expenditures derived after eliminating the single highest and the single lowest value. Applicants for new membership in the Association must meet this threshold for the three years prior to the date of application."

program among the member libraries. Other ASERL programs such as a union catalog and courier delivery of library materials which a subset of ASERL members (somewhat more geographically clustered) participate in are largely duplicative of those of WRLC; therefore, for now the Libraries have chosen not to join. Similarly, ASERL's virtual reference program which was developed after WRLC's program was implemented has not become a priority to join for Mason libraries. Mason, however, has contributed data and is included in ASERL's digital projects program.

Another ASERL effort of benefit to Mason's libraries is the Research Librarian Competencies initiative. This statement of required attributes and capabilities for research librarians has been discussed by Mason librarians, has informed training sessions for reference competencies, and serves as a guidepost in the enhancement of the liaison librarian program.

Overall, Mason's membership and participation in ASERL has brought both resources and service benefits to the University and, perhaps more importantly, serves as a required link to the world of academic research librarianship – a level that the libraries' professional staff, in particular, need to be part of and contribute to.

Center for Research Libraries (CRL)

CRL, a consortium of nearly 150 American and Canadian academic and independent research libraries, was founded in 1949 as the outgrowth of a Carnegie Corporation financed study of how best to keep and distribute to users the little used books and research materials held by a group of 13 major Mid-western university research libraries. During the 1960's and 1970's the center experienced remarkable growth and expansion to the point that now a very high percentage of the most important university libraries in the United States are members.

What was originally envisioned as centralized storage to facilitate interlibrary loan has grown exponentially into a shared collection of more than 4 million items (housed in Chicago) which may be requested by any student, faculty or staff member at any member institution. The materials are rare, expensive to procure for individual libraries, and have been increasingly made available in microtext and, now, in digital formats. Areas of focus include foreign

dissertations (more than 800,000 are in the collection); complete 19th-century runs of obscure, defunct, or otherwise unattainable newspapers from around the world; and six very active area-studies programs (such as the Cooperative Africana Microform Project, which collects personal papers, corporate archives and government publications in dozens of languages from throughout Africa). The Center now runs robust cooperative purchase, preservation and bibliographic access programs. Major purchase and preservation decisions are made collectively by, or at least with very significant input from, the member institutions.

Membership levels are based on the size of university libraries' collections and research materials budgets. While Mason's Associate Member status does not bring us full governance privileges, it does allow for our academic community to borrow whatever they wish from the center's collections. Furthermore, materials loaned by CRL to member institution researchers are for no fixed time period: scholars may use them for months, and longer, at a time, only needing to return if another researcher from a member institution has requested the item. Also, Associate Members' dues are only one-third those of Full Members. CRL will increasingly become a valuable resource for Mason researchers for two particular reasons: their detailed online catalog is increasingly putting access to their holdings information at our students' and faculty's desktops; and the focus at CRL will most likely be shifting much more heavily to digitization of collections and electronic delivery in the future

Affiliation (and Possible Affiliation) with Other Organizations

University Libraries participates in two other organizations whose activities relate to digital scholarship, networked information, and development of cost-effective models for digitally-based libraries.

Scholarly Publishing & Academic Resources Coalition (SPARC)

SPARC is an international alliance of libraries that aims to foster change in scholarly communication practices. It seeks to address issues caused by the soaring costs of scientific, technical and medical (STM) journals, by pursuing a dual strategy of public advocacy (changing fundamentally the system and culture of scholarly communication) and incubation

of alternative (to commercial sources) channels of scholarly communication. Among SPARC's endeavors are the Open Access and the Open Archives initiatives. It has largely focused on STM fields where the potential economic benefits for libraries are greatest, but projects in the social sciences are being developed as well. SPARC's program, in essence, supports lower-cost, directly competitive alternatives to high-priced journals in important fields. On a practical level, membership in SPARC commits the library to subscribing from among SPARC alternative e-journals that are refereed, high quality publications. Thus, Mason is materially supporting the scholarly publishing movement generally known as "open access." In addition, the library benefits from the professional programs of SPARC (and occasionally contributes to it, e.g., a presentation on Mason's MARS at the SPARC-SPARC Europe conference on institutional digital repositories, November 2004).

Coalition for Networked Information (CNI)

CNI is an organization representing higher education, publishing, network and telecommunications, information technology, and libraries and library organizations. Its aim and programming is dedicated to supporting the transformative promise of networked information technology for the advancement of scholarly communication and the enrichment of intellectual productivity. The library's CNI affiliation enables staff to stay abreast of promising emergent technologies and provides opportunities to establish contacts with the principals involved. Many of the networked information services offered by University Libraries today (e.g., E-Reserves, OpenURL Link Resolver, DSpace/IR) were introduced to Mason library staff at CNI project briefings—sometimes as early as two years before they began to receive more widespread coverage in other professional venues.

Possible Affiliations in the Future

Finally, because of the University's increased commitment to graduate education and research, along with our international and global direction, *The Research Libraries Group (RLG)* presents a potential opportunity for Mason to link with some of the world's foremost research collections. RLG is an international membership organization of libraries archives, and museums, working together to create solutions to the challenges of information access and

management. Among its members are some of the leading universities in the United States and Europe and other research/cultural organizations whose libraries hold specialized and deep collections, including primary source research materials.

The RLG organization itself is deservedly well known for its leading role, having contributed many library technology innovations and inter-institutional collaborative programs that are regarded as models among the international research library community. It is also the home of number of unique databases that are essential to scholarship (University Libraries subscribes to a few of them).

Previously, Mason would not qualify for RLG membership. However, RLG has recently modified its membership structure thereby an application for membership from a university such as Mason may be successful. Membership requires commitment to RLG's programs and a capability by its members to contribute to those endeavors. A number of RLG's programs could be of potential interest and benefit to Mason, including the SHARES program among its members. In considering additional library affiliations, the cost-effectiveness of RLG membership should be explored in the future.

FUNDING & FUNDRAISING

For most of the past decade, the University has funded the libraries in the range of slightly over 6% of the Education & General budget. This level of financial support has enabled library expansion in a number of dimensions: collections, programs and services, additional units, and modest staff increases. In the past two years, library budget increases have also included small amounts of new money for research materials beyond inflation costs (with the same anticipated in FY06). Continuing investment is necessary and should be appreciably accelerated by 2010 in order for the libraries to achieve the type of scholarly resources, services, programs and staffing levels presented elsewhere in this report. Mainly, a three pronged approach is recommended: (a) increased institutional budget allocations; (b) fundraising for specific projects and ongoing needs; and (c) where appropriate and feasible, pursuing grant prospects and other revenue enhancing opportunities.

Base Budget Requirements, 06-08 and 08-10 Biennia

The libraries will need to grow in both quantity and quality to effectively contribute to the 2010 strategic education, research, and service goals of the University. Increased support from E&G funds will provide needed staffing levels, research materials adequacy, and direct ancillary expenditures. Recognizing that specific budget planning constitutes an “operational” function, the Task Force endorses in principle the Library Administration’s 2010 Plan Budget Requirements (see Appendix II). The estimated total library budget increase of \$6M by fiscal year 2010 will solidify the libraries’ capacity to sustain increasingly specialized and vital resources and services and programs, thus contributing to and enabling the University to achieve its academic goals.

The library cannot accomplish the goals presented in this report without further financial investment, but this is a different kind of investment – it is designed to achieve both quantitative adequacy and qualitative excellence. Mason needs to make a major, gradual investment in more library staff that are highly trained, and who have expert knowledge in particular fields. And, we need to reasonably accelerate our investment in the access to knowledge, both in the rights to materials and the tools to organize and provide the materials.

Development & Fundraising

Although the Libraries' development-fundraising program is relatively new, it is starting to show progress, both in the area of in-kind gifts (i.e. significant research-level collections) and monetary gifts. Because the library lacks the direct natural fund-raising constituency enjoyed by the colleges, schools and academic programs (such as alumni, business organizations as future employers of students, or corporate partners for transfer of knowledge-technology), it takes much longer to develop the kind of "presence" that attracts significant philanthropic giving. Despite such challenges, the library's current initiatives and ongoing efforts in the development and fundraising domains promise to yield beneficial results over time. However, the task force identified two areas where University-level attention and support is required in order to propel the libraries forward: (a) focused and sustained fund-raising for the planned library facilities expansion; and (b) library endowment in conjunction with named professorships.

In summer 2007, the Arlington Campus Library will be in the new Arlington Phase II building. By no later than 2010, it is hoped that a significant expansion of Fenwick Library will also be realized on the Fairfax campus. In the meantime, serious planning for an expanded Prince William Campus library is expected to be underway. Although it is understood that construction of library buildings remains a state funding obligation, other costs such as equipping, furnishing, staffing, and other associated needs will be significant and Mason ought to start a focused fund-raising effort at the University level in order to meet these needs. (Based on recent experience with other building construction projects, state appropriations in these areas tend to be minimal at best.)

Given the range of anticipated costs (\$15-20M), this is an endeavor that the library as an organizational unit cannot achieve on its own based upon current practices with regard to alumni and prospect access – it must become a University-level priority, requiring not only University Development Office focus, but more importantly particular commitment by central University Administration, the Board of Visitors and the George Mason University Foundation

Board of Trustees.¹⁴ In addition to becoming a “unit”-based fundraising campaign, it is imperative that the library become one of the top foci of the planned second comprehensive campaign of the University. It should also be stressed that we have an opportune occasion in the fact that Mason’s libraries represent naming prospects – for each of the libraries, along with spaces therein. This includes the planned new Fairfax campus library building, with the new library complex becoming the [.....]/Fenwick Library.

A further need we have identified relates to ongoing library support for named, endowed professorships. It is in the nature that such professorships are/will be occupied by scholars whose research agenda typically require deeper, specialized library resources. Therefore, we recommend that a Foundation-University policy be established whereby solicitation of endowed professorships in the future should include an amount specifically designated as library endowment for the chair’s discipline. By doing so, we would be at the forefront of a nascent “best practice” at colleges and universities soliciting endowments for named professor chairs.¹⁵ We believe that this approach would be attractive to potential donors as it demonstrates a commitment to a scholar and his/her discipline. It also signifies a clear understanding that doing first-rate scholarship requires a holistic approach and demonstrates Mason’s commitment to achieving genuine excellence broadly.

Grants

Further, like academic units and programs, the library is in a position to develop proposals and pursue grant opportunities for specific projects and activities. Although the library as an organization does not have a “tradition” in this area, it now has a number of prerequisites (e.g., special collections of note, innovative technological applications, staff expertise) to enable it to compete in this aspect of potential funding, too. And as is the case with instructional faculty,

¹⁴ This amount represents very rough cost estimates for equipping, furnishing, technology, and special library shelving (high density with, perhaps, a robotic retrieval system) for a fairly large building.

¹⁵ Such a policy could specify as follows: It shall be the policy of the University that when soliciting endowment funds for a chair in any school or college, or academic program, a specific percentage of the funds shall be designated for library collections in the chair’s discipline. This portion of the endowment would be under the control of the library. Endowment funds raised in this manner ought to be treated as additional resources to achieve excellence, rather than as a means for reducing University budget support for library collections. (A notable example: In 2000, Johns Hopkins University adopted such a policy – at the time it required \$2M to establish a named chair, and 12.5% of each chair endowment, or \$250K, was set as library endowment. Reportedly, at least four endowments were subsequently funded, leading to \$1M+ set aside for the library.)

this offers individual librarians an opportunity to lead and/or contribute to such initiatives. Institutionally, recognizing and rewarding of successful efforts could very well become an integral component of librarians' potential broader professional contribution and scholarly activity.

Other Revenue Enhancing Opportunities

Mason's library collections and programs represent a significant asset not only to the University, but also to our surrounding professional and business communities and the general public. As a state-supported university, Mason's libraries are accessible by non-affiliated persons for on-site available services, including digital collections. Consequently, library collections, digital resources, and services are used extensively by external persons. The University thus benefits the region more broadly.

The libraries also provide specialized services on a fee-based basis. Notable among these are:

- the Library Passport Program, which provides borrowing privileges to Alumni and non-affiliated individuals on the basis of an annual "subscription" fee (approximately 200 individuals currently participate in this program);
- a number of contracts with other universities that offer educational programs in Northern Virginia, which grants them access to non-digital library resources for their students and faculty;
- one corporate agreement with the American Type Culture Collection, which provides a wide range of library services to ATCC's scientists;
- and a variety of on-demand "reproduction" services in Special Collections and Archives, supplying individuals and organizations with images of the Libraries' unique holdings used in publication, broadcast and for other scholarly or cultural purposes.

Given the growing and specialized “information assets” of the Libraries, further opportunities conceivably exist for fostering business and corporate partnerships to provide “clients” with specialized information-based services on the basis of a cost-recovery plus model. Such arrangements would also be beneficial in University-Business/Corporate engagement, demonstrating yet another aspect of Mason’s service mission, as well as developing and sustaining relations with the region’s general business community -- which could accrue both intangible (good will toward the University), as well tangible (fundraising/sponsorship opportunities) longer-term benefits.

Ironically, however, the degree of freedom that exists in the utilization of analog format collections is not readily available with electronic resources due to the prevalence of severe licensing restrictions; vendors and other content providers prohibit resale or redistribution of electronic information to third parties. This is a significant barrier to marketing “information broker” services in a financially attractive manner to potential clients. Nonetheless, consistent with Mason’s entrepreneurial ethos, the library ought to be open to such opportunities, if not outright actively seeking and cultivating them.

Finally, proceeds from such “business” endeavors tend to be modest – certainly covering costs, but not to be considered or viewed as an opportunity for institutional budget “replacement.”

APPENDIX I: Summary of Recommendations

Library Collections and Electronic Access

- University Libraries will begin collecting more broadly materials in foreign languages (focusing on digital formats as available/appropriate), emphasizing education programs and research areas of the University, as well as more concentrated collecting in “area studies” programs, themselves.
- Also, the libraries will begin collecting United Nations agency materials, other international organizations (e.g., World Trade Organization, World Health Organization), as well important non-governmental organizations (NGOs) of international scope.
- The scale of Special Collections will be expanded, with a focus on the acquisition of scarce/rare specialized books, digitization of original materials (for preservation and wider access), and development as a destination for research by advanced students, faculty and scholars from far beyond Mason and the region.
- The libraries will maintain research materials support for existing academic programs, enhancing this as current units expand their programs and research focus, such as mathematics, political science, and health science. The libraries will begin to focus on building research collections in new areas of University academic/research focus, such as Biomedicine, Bio-defense, and Neuroscience.
- The libraries’ collection will continue to be conceived of as a unified whole with centers of distinctive strength at each of the physical campus locations. Each distributed library will fully support instruction level activities while continuing to build library collections that support the major research-focused programs found at each site, emphasizing electronic networked resources whenever possible and appropriate.
- Fenwick Library will continue to be developed as the central, main research library; a robust, reliable inter-campus library materials delivery system will serve the needs of the non-Fairfax locations.

Library Services

- Library instruction will continue to undergo a transformation from a bibliographic (i.e. research tools) orientation towards the best practice model of information literacy.
- While library services will continue to be organized/managed to provide “self-assisted or self-service” patron services for many functions, University Libraries

will begin to develop customized services for certain patron groups and/or academic units, such as enhanced support for distance learning programs, alerting services for new content, and possibly fee-based services for internal and/or external users.

- The libraries will initiate research portals tailored to specific disciplines.
- Library programs and services will be placed within a framework of assessment that tracks the University Libraries' impact on outcomes associated with student learning and faculty teaching and research.

Library Staffing Requirements & Functional Expertise

- Library administration and library line managers will continue to focus attention on the essentials of staff recruitment, development and retention. A substantial portion of the libraries' personnel will need to be at the highest level with respect to: librarianship domain knowledge; subject/discipline expertise; information technology capability; and specialized training, experience and skill in the *modus operandi* of a large research-oriented library enterprise.
- A generally marked improvement in the compensation system of the libraries is necessary, including targeting key library positions for higher-end market salary "industry" parity.
- Liaison librarians (who themselves are *professional* faculty) will become more closely aligned with the instructional/research faculty, and the number of librarians in these liaison roles will increase.
- Liaison librarians will actively participate in selected courses where the skills of information and knowledge management are taught to the students, with librarians working side-by-side with the faculty member for some portion of the course. Librarians will work to provide students with access to the best information accessible through the libraries in as few steps as possible, to streamline the research process to produce a higher educational experience and quality product.
- Liaison librarians will be situated within an augmented role, encompassing new activities: acting in an authoritative information broker capacity for disparate analog and digital scholarly resources (including managing "external" collections); being recognized and accepted as discipline-based information experts; operating as information scientists; and engaging in significant outreach and marketing activity to students and faculty within the academic program(s) served.
- Where appropriate and otherwise qualified, librarians might have joint library-academic department appointment, based on a "librarian-faculty" model.

Conversely, instructional faculty may be released as “faculty-librarians” to the library to undertake specific projects that would be of benefit to both the libraries and the affected academic programs.

Library Facilities

- The planned Arlington campus library will accommodate a collection of 100,000 volumes, will have state-of-the art technology along with the Libraries’ networked electronic scholarly resources, will feature appropriate environmental controls, and will be staffed adequately (in both level of expertise and numbers) to serve the non-Law academic programs located on that campus.
- The fourth floor of the Phase I Arlington campus building should be seriously considered as expansion space for the Law Library.
- A new Fairfax campus library building is needed (attached to Fenwick Library’s towers, Wings B&C). Strong consideration should be given to constructing a large new building -- in the range of 250,000 to 300,000 sq. ft. (gross). This building addition should be built in one, rather than multiple, phases. (Wing A and the connecting structure to Wing B will be demolished as per Fairfax Campus Master Plan.)
- The new library facility is envisioned as housing all main, research library service points, library user areas, library staff and offices and work areas, and technology clusters for individual and group use. Designated spaces should include instruction rooms, information and/or research commons configurations, multimedia centers, lecture halls, seminar rooms, faculty research offices, study carrels for advanced graduate students, and conference rooms. The new facility should also feature a state-of-the-art Special Collections & Archives designated area, with appropriate reading/research room(s), visiting scholar offices, exhibit area, security and environmental controls for its collections, and a production laboratory/technology for digitization activities. The new library facility should be designed to accommodate substantial book form collection expansion (including high density shelving/storage of materials), as well as microprint, government documents, and multi-media materials.
- It is imperative that the Prince William campus’ master planning process make a new, expanded library facility a priority for the next round of building projects on that campus. The new library could be part of a student center/academic services type of building, or a part of an academic/research building.
- With respect to other Mason locations:

Library service to planned new Mason sites (Loudoun, Point of View, Belmont) should focus on delivery of library materials digitally, and as warranted perhaps adoption of a “circuit” librarian model (for instruction

and other in-person library service needs), to support programs at those locations.

University Libraries will continue to work with the Office of the Provost to ensure that students and faculty of the George Mason RAK campus in the UAE receive adequate library support, consistent with accreditation requirements and George Mason's standards. To the extent possible, and allowed by licensing agreements, it is expected that the students and faculty of this campus will be able to access the library's electronic resources and digital collections over the Internet.

Library Technology

- Cognizant of the ever-accelerating pace of new developments in information technology, University Libraries will continue to remain in the forefront of trends and judiciously build upon its already robust platform of digital access to and delivery of scholarly content and associated library services to the Mason academic community -- working with and contributing to overall Information Technology Unit and other University endeavors in this area.
- The library will continue to focus on the interoperability of its systems with other digital libraries and collections through adherence to emerging metadata encoding standards and established content-linking protocols such as OpenURL, OAI-PMH, and Z39.50. We will also continue active participation in groups involved with these issues.
- The library will develop specialized research portals, or views, customized to the needs of specific academic programs.
- By 2010, University Libraries will have developed a robust and mature "digital library" presence, continuing to meet the challenge of reliable, long-term archiving and preservation of digital collections and "objects" through its new Mason Archival Repository Service (MARS), inter-institutional partnerships (library consortia programs or *ad hoc* initiatives), and other efforts such as the international LOCKSS project.

Library Consortia

- The Mason academic community will continue to reap the resource-sharing and other scholarly and professional benefits associated with the University Libraries' active participation in various library consortia, including VIVA – The Virtual Library of Virginia, the Washington Research Library Consortium, the Association of Southeastern Research Libraries, the Center for Research Libraries, and other related organizations.

- Recognizing Mason's increasingly international-global academic component, requiring broader and deeper access to foreign language research materials along with enabling services and partnerships, University Libraries will begin to explore the costs and benefits of possible future associations with such organizations as the Research Libraries Group and others, domestically and abroad.

Funding & Fundraising

- Overall, University Libraries will require increased institutional budget allocations of \$6M by FY2010 for: collections and E-access; additional personnel (professional and support); and other related direct expenditures.
- The physical expansion needs of the University Libraries must become foci of the University's second comprehensive fundraising campaign.
- A Foundation-University policy should be established whereby future solicitation of endowed professorships includes an amount specifically designated as library endowment in order to support library collections development for the chair-holder's discipline/research program.
- University Libraries will pursue grant prospects and other revenue enhancing opportunities, where appropriate and feasible, focused on specific projects and activities.

APPENDIX II: University Libraries' 2010 Budget Requirements

To effectively support the University's 2010 Plan, the Libraries will require additional budget support for personnel, research materials, and other related direct expenditures. Based on preliminary estimates by Library Administration, the following projected budget increases for the libraries are presented.

SUMMARY FOR 2006-2008 & 2008-2010

Personnel:

Classified staff (18)	\$ 972,500
Administrative faculty (1)	\$ 65,000
Professional faculty (librarians) (14)	\$ 970,000
Graduate Research Assistants (9)	\$ 142,500
Wages (All libraries and library operations)	\$ 155,000
SUB-TOTAL	\$2,305,000

Research Materials:

Inflation ¹⁶	\$ 2,100,000
Increase (New \$s)	\$ 1,200,000
SUB-TOTAL	\$ 3,300,000

Direct Expenditures:

Increased cost of supporting add'l staff ¹⁷	\$ 200,000
Additional costs for processing of collections ¹⁸	\$ 130,000
Operational cost increases due to inflation ¹⁹	\$ 75,000
SUB-TOTAL	\$ 405,000
TOTAL	\$6,010,000

¹⁶ These monies enable University Libraries to maintain a steady-state materials acquisition program.

¹⁷ E.g., furniture, telecommunications & IT, office supplies, training & staff development.

¹⁸ Cataloging and inter-library loan (OCLC), security strips for materials, preservation & archival supplies.

¹⁹ Maintenance contracts (e.g., Libraries' integrated management system, and other library equipment such as micro-form reader printers), office supplies, other procured services.

APPENDIX III: Examples of Extended Liaison Librarian Interactions and “Value Added” Service

Note: The following are representative of the increasing number of occasions of academic program/faculty and librarian collaborations, providing a glimpse of the mutually productive “higher level” library engagement with the education and research activities of students and instructional faculty. The task force recognizes that such “expert,” high visibility participation by librarians is needed in the academic units and, therefore, it is expected that this will be the required programmatic norm the future (rather than episodic in character).

ASSISTANCE TO AND INVOLVEMENT WITH GRADUATE PROGRAMS

- A librarian has produced a specialized Research Guide on Homeland Security for PUAD 729, leading to a specialized session on government documents and legislative documentation for graduate students seeking internships in the Transportation Security Administration. This session led to more in-depth consultations with graduate assistants working for the course professor on homeland security topics, including the history of airport screening and accompanying FAA documentation.
- A librarian has worked with M.P.A. program faculty in a variety of mutually reinforcing ways, including giving orientations each fall and spring semesters for new M.P.A. students. One M.P.A. graduate student benefiting from research consultations provided by this librarian has recently received the distinction of being admitted to the U.S. Presidential Management Intern Program.

CONTRIBUTIONS TO CURRICULUM DEVELOPMENT

- Beginning in fall 2005, a liaison librarian for the School of Public Policy has been integrated into the graduate-level course “Theory and Practice in Public Policy.” The syllabus for this course states that the librarian has helped to “develop a curriculum to teach students about the enormous range of materials available to our students. You will learn how to access, cite and appropriately use library sources and will be given practice exercises to ensure that you can find exactly what you need when you need it.” Students in the course must attend a mandatory session on the use of EndNote bibliographic management software; this session is taught by staff at the Arlington Campus Library and occurs outside of the regular schedule of class meetings. The liaison librarian presents three separate “policy research library skills” in-class modules at different points during the course of the semester; the modules are graduated in nature, presenting first a basic overview of library services and resources and then concluding with specialized resources in public

policy. To assess students' uptake of the librarian's presentations, the course Web site on WebCT includes two quizzes relating to library resources. Students must pass each of these quizzes with a score of at least 90%. If a student fails to pass the first quiz, s/he must attend a scheduled supplemental session with the liaison librarian; students must schedule an individual meeting with the liaison librarian if they fail to pass the second quiz.

- A librarian is currently providing intensive assistance to a faculty member developing new courses at the University. For the two new graduate level bio-defense courses, the librarian is working with the faculty member to identify materials on modern drug discovery and development. Considering the relatively new nature of the discipline and the currency of the topic, it is crucial that the resources be current. In addition to identifying existing library resources, both print and electronic, the librarian incorporated "open access" sources on the topic accessed via the webpage developed for the life sciences (<http://library.gmu.edu/resources/lifesciences/openaccess/>) by the library.
- A librarian has worked extensively with the Environmental Sciences and Policy (ESP) and has been invited to attend faculty meetings and functions, as well to provide instruction in upper-level master's and PhD courses. For a Biology honors class, the librarian and the professor jointly created the semester-long assignment that formed the backbone of the class. The assignment involves choosing a controversial biology topic that has been covered within the past five years in general publications such as *Science*, the *Proceedings of the National Academy of Sciences*, and *Nature*. Students must examine how their selected topics have been treated in biology-specific scholarly journals, comparing this treatment to that found in more general publications. The scientific treatment of the topic must then be compared and contrasted with reports found in mainstream media, on the Web, and in advertising. Development of this assignment required frequent consultations between librarian and course instructor; moreover, the librarian introduced the assignment and search strategies during a regular class session and met with students one-on-one during the semester as they experienced obstacles.
- The librarian for New Century College has been working closely with faculty, including: teaching classes, attending faculty meetings, and participating in interviews of candidates for open positions within the College. One project involved responding to a request for a pathfinder or guide for a seminar on violence and gender. The completed pathfinder lists journals, articles, books, and videos relevant to seminar topics, such as mail-order brides, suicide bombers, and female circumcision, as well as more general strategies for finding additional resources. Copies of the pathfinder were distributed to students in the seminar, and several have contacted the librarian for further assistance.

ONE-ON-ONE RESEARCH CONSULTATIONS WITH GRADUATE STUDENTS

- Increasingly, the library's reference function has become one of advanced "instruction" and research consultation by appointment. This is especially true for advanced graduate students embarking upon thesis or dissertation projects. One librarian employs the following method for to prepare for these lengthy one-on-one research consultation sessions: 1) conducts research on the identified topics; 2) prepares an annotated research log of all relevant databases; and 3) provides individual students with consultation and copy of the research log. One recent individual research consultation involved the historical antecedents of the current ethnic/political conflict in Sierra Leone.
- A librarian's long-standing, strong research consultation support and mentorship for doctoral students in a particular program continues as these students go to become faculty members at other universities. In one case, the librarian provided consultation to the student regarding her dissertation research dealing with negotiating styles of minor parties in multinational peace. The former student now directs the Conflict Resolution Program at Sabanci University in Istanbul, Turkey, and the librarian is assisting her university in developing a library collection to support the new curriculum and program there. In another case, this librarian assisted a doctoral student with his dissertation research regarding the role of media in conflict situations. Now, the former student is a faculty member at a U.S. university, and the librarian is being consulted in identifying core texts and journals for a conflict resolution program at his university.

MATERIALLY CONTRIBUTING TO FACULTY SCHOLARSHIP

- Many liaison librarians frequently work closely with faculty on article, grant, and book projects, helping to identify data, primary sources and secondary literature, and other types of scholarly information. For example, a librarian recently provided research assistance to a faculty member for his forthcoming book, "Wisconsin Politics and Government: America's Laboratory of Democracy." The faculty member received assistance in locating sources related to Wisconsin's past governors, elections and political party traditions, for this volume in a university press series on the American states.
- Over the course of approximately three months in 2004, the liaison librarian for chemistry worked extensively with a Chemistry faculty member to gather data on chemical compounds that are considered the most basic building blocks of life. Completing his portion of the project involved discovering how to retrieve dozens of data points from the Beilstein database, such as melting point, structure, etc. Once the librarian had made templates for each of these data points, he retrieved the relevant data for the approximately 300 compounds of most interest to the Chemistry department. He then downloaded the resulting data into an Excel spreadsheet, which served as the final product delivered to the department. This project involved numerous face-to-face meetings with the professor, as well as frequent phone and email contact.

- The government documents and geography liaison librarian has worked extensively with Dr. Andronikov, director of Geographic Information Systems (GIS) in the Geography Department, to promote GIS services. The librarian has sponsored a GIS Open House in Fenwick Library as part of the university's GIS Day, including creating a Web page to support this special event; created and maintained a Web page for the GIS Center that lists resources (guides and manuals) for GIS users; and developed a GIS "blog" (weblog) as an informal communication and discussion forum for the GIS Center.

INTEGRATING THE LIBRARY INTO ACADEMIC PROGRAM PLANNING

- The strong relationships that a librarian has developed with an academic program led the program's faculty to invite her to participate in their three-day Futures Search planning meeting. This three-day learning, planning, and sharing process dealt with core academic program issues. Faculty, alumni, students, advisory board members, and this librarian all participated to define the future of the academic program and its national and international outreach initiatives.
- In spring 2005, a librarian completed two in-depth projects for the Department of Mathematical Sciences. In response to a request from the department head, he completed a comprehensive count of the Libraries' electronic and print journal and monograph holdings in mathematics. The project involved working with the Library Systems Office to count math collections across the Libraries and then delivering a detailed table. The purpose of this inventory was to demonstrate the University's capacity to support a PhD program in mathematics.

BUILDING ON ACADEMIC PROGRAM ASSOCIATIONS AND PROVIDING CONSULTATION TO OUTSIDE INSTITUTIONS

- A librarian, along with staff from Special Collections, participated in the National Endowment for the Humanities Summer Institute 2005, assisting visiting public school teachers in the use of the library's research collections and special collections materials.
- Scholars from a Romanian university have forged an ongoing relationship with a Mason academic unit. Mason's library seems to have become a model for their university, requesting advice on electronic resources and library facilities planning. A librarian has been written into grants to provide advice on library issues.

APPENDIX IV: Library and Academic Department Partnerships

Note: The following is an example of the type of partnership between academic programs and the library in which resident expertise has been drawn upon in the management of collections. University Libraries envisions other projects in which Mason faculty and students may similarly add value to both collections and services.

French Documents Project

Background:

The Special Collections & Archives department recently received a gift of some 250 French documents dating from 1751 to 1835. They are legal and social documents that reflect the activities of French administrators in Brittany, during a period of strong resistance to the religious and social reforms of the new French government. Because they are original, primary research materials, a project to bring them under intellectual control and to make them available for scholarly dissemination was deemed appropriate to begin to take full advantage of the collection's potential. The overriding goal of the project is two-fold: first, to provide a rich learning experience and environment for graduate students at Mason and, second, to make the documents available to scholars around the world. Each step that was taken in the project was planned to ensure the maximum opportunity for learning and to serve the library's research constituencies, domestically and abroad.

After a brief overview of the purpose and goals of the project by SC&A staff, two graduate students were recruited as a team to begin the project. (Though research teams in the sciences have been a long-standing practice, they are much less frequent in humanities disciplines. This project, then, is a model effort in which graduate humanities students build intellectual relationship patterns that can be useful in their later career choices.)

Stage 1: Organization and Classification

In this stage the graduate students reviewed examined and reviewed all of the documents, classifying them into appropriate categories, as follows:

- Official correspondence between the regional capital and the mayor of a locality;
- Official government memoranda;
- Letters from private citizens documenting war damages;
- Accounts of sale at auction of leases on government-held properties;
- Government laws and decrees;
- Two pamphlets by J.J .Rousseau (1751);
- Certificate from Napoleon III
- Recruitment and other posters;
- A promissory note;
- Collection of essays on economic inflation.

Though document classification seems on the surface to be a rather easy, experience with other classification systems (for example, the Periodic Table and Linnaean systems) show that many intellectual issues can (and usually will) come into play, often interactive with several intellectual disciplines. In this instance, the students were introduced to concepts of document classification, such as:

- Chronological verses content-based ordering;
- Terminology from WorldCat (OCLC) and Library of Congress Subject Headings
- Document dimensions and production formats.

Note: At this point, it is important to mention that because the documents are all in French (both manuscript and printed exemplars) the students had to expand their historical French language capabilities, a requirement for obtaining the positions in the first place. This required them to explore French philology in ways they had never encountered. As a corollary, they were obliged to exploit nearly all the French language dictionaries held in the library's reference collections, both in the main Fenwick Library Reference Collection and in SC&A. Because of their growing language expertise they were also able to assist with the library's other research holdings, making suggestions about acquiring French sources of information.

Stage 2: Document Identification

This stage was perhaps the most difficult task met by the students for they were required not only to differentiate between kinds of documents, they also had to gain an intimate knowledge of their contents, including information like:

- Whether the documents reflect issues common to all of the French provinces, or limited to Brittany;
- What was the character of French political leadership after 1793;
- Who were the chouans or counter-revolutionaries and were they successful;
- Terminology, including legal and government specific terms and abbreviations and archaic spellings;

To assist in document identification and classification, the students were trained in using sophisticated online databases to obtain relevant information. Such databases included WorldCat (OCLC); the Online Public Access Catalog (OPAC) for the Bibliothèque nationale de France; and OPACs for selected university libraries, such as Rennes and Vannes.

Stage 3: Encoded Archival Description Finding Aid/Research Guide

In order to gain intellectual control over the collection, the Encoded Archival Description format was chosen as it is the standard used by agencies such as the Society of American Archivists and the National Archives and Records Administration to provide access to

collections. In this case, the students (working with NoteTab Pro) designed an information template that was used to encode relevant data for electronic access to information about the collection. In order to insure uniform and accurate accessibility, the students assisted in identifying and in using a controlled vocabulary and metadata cataloging structure. By making the finding aid/research guide available electronically, a researcher around the globe who has Internet/WWW access can find out what is in the collection. They can then inquire about the collection by communicating (usually through e-mail) with SC&A's Reading Room Supervisor who fields all scholarly questions.

Stage 4: Website Design

As part of making information about the collection available worldwide, the students designed a webpage that included basic information about the collection; important images from the collection; and appropriate research links to the webpage/collection, such as:

- Names of important administrators;
- Topics addressed in correspondence;
- Regions and towns concerned;
- Libraries with relevant sources and collections.

Stage 5: Digitizing Collection Images

In order to provide detailed access to the most important contents in the collection, the students selected those documents that were historically and textually the most important. After undergoing training in SC&A's digital training program, they scanned the most important documents for full image/text access via the Internet. Though time was limited for the project, the finding aid/research guide and scanned images will be uploaded to the library's new University-wide digital archive, Mason Archival Repository Service (MARS), a library-sponsored initiative designed to capture and make permanently available the most important research-generated information by faculty and students at the University.

Stage 5: Conservation of Collection Documents

One of the requirements for the project was to be aware of the condition of each document and to select items for advanced conservation by the library's professional conservation service. (The students engaged in basic preservation practices, such as placing single items in acid-free folders, using acid-free boxes and basic surface cleaning of selected documents.) Criteria for conservation selection included:

- Fragility of documents;
- Acidity;
- Surface condition;

- Tearing and/or missing pieces;
- Water staining.

Suggested conservation treatments include:

- Binding repair or replacement;
- De-acidifying using aqueous and/or enzyme washing;
- Casing;
- Repairs with Japanese tissue

Stage 6: Exhibitions and Publicity

Another reason for selecting appropriate documents for digital scanning was to use the same selection criteria for identifying documents for exhibition, both physical and digital. The physical documents will be exhibited in Fenwick Library's main exhibition area. Four display cases will be used for the exhibition. Appropriate museum quality design and labeling will be used to provide visual access for viewers, including members of the University community and the public at large. For those unable to view the actual documents they will be able to see them online with the same exhibition information provided in the physical exhibition.

Graduate Student Team

Ann F. Bayliss, M.A. student, French Studies
Jacqueline Williams, M.A. student, French Studies

GLOSSARY

ALADIN	Shared catalogue of the WRLC institutions
ARL	Association of Research Libraries
ASERL	Association of Southeastern Research Libraries
CNI	Coalition for Networked Information
CRL	Center for Research Libraries
DSpace	Digital repository system developed by MIT and Hewlett-Packard Labs
E-Reserves	Electronic reserves
IR	Institutional Repository
Information Management	Process by which an organization collects, records, codifies, classifies and organizes information for optimal access and retrieval
Knowledge Management	No agreed upon definition. Commonly denotes a set of practices through which an organization generates, captures, and shares expertise and know-how that is germane to business processes and decision-making needs.
LOCKSS	Lots of Copies Keep Stuff Safe. Originated by Stanford University and Hewlett-Packard, an international initiative aimed at long-term access to electronic journals
MARS	Mason Archival Repository Service
MasonLink+	OpenURL link resolver
MetaLib	Federated search system
MyLibrary@Mason	User-centered research portal
OAI-PMH	The Open Archives Initiative Protocol for Metadata Harvesting
OCLC	Online Computer Library Center
RLG	Research Libraries Group
SOLINET	Southeastern Library Network
SPARC	Scholarly Publishing and Academic Resources Coalition
VIVA	Virtual Library of Virginia
WRLC	Washington Research Library Consortium