



NATIONAL AGRICULTURAL LIBRARY

Advancing Access to Global Information for Agriculture





Staff Discussion Paper

Blueprint for Success: The National Agricultural Library 2008-2012

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National Agricultural Library staff crafted this Staff Discussion Paper following three years of conversations, studies and analyses of the Library's programs, services, audiences and opportunities for growth. It summarizes staff findings in a way meant to stimulate discussion, evoke critical comment and spark debate about NAL's future. Its recommendations are preliminary and do not indicate concurrence by the Agricultural Research Service or the United States Department of Agriculture.



Table of Contents

Introduction	Introduction A Mandate for This Century	iii
	Chapter I Services: Quality Information for All, Everywhere, All the Time	I
2	Chapter 2 Collections: A National Treasure at Risk	9
3	Chapter 3 Marketing: Analysis and Action	15
4	Chapter 4 Partnerships: Outreach and Involvement	19
5	Chapter 5 Operational Infrastructure: Foundation for Excellence	25
6	Chapter 6 Facilities: Support for Stewardship and Effectiveness	29
Conclusion	Conclusion Jump-Start the Revitalization	35



National Agricultural Library

Introduction: A Mandate for This Century

In the same act that established the United States Department of Agriculture (USDA) in 1862, President Abraham Lincoln signed into existence a library that would serve both that Department and the Nation by "acquir[ing] and preserv[ing] . . . all information concerning agriculture." Now known as the National Agricultural Library (NAL), this institution still fulfills that basic mandate by providing equitable access to its collections and making its services broadly available.

But as agriculture itself has changed and expanded, so too has the Library.

The traditional library programs and services that satisfied NAL's mandates for well over 130 years have undergone significant changes in just the last decade.

Information and communication technologies developed at the end of the 20th century—and still evolving today—have raised customer expectations and complicated the delivery of library services.

Ironically, this additional complexity has come in pursuit of simplicity.

Information consumers, whether USDA staff worldwide or the Nation's citizens, now expect easy and seamless access to digital content and personalized services. They demand reports, images and news feeds in a variety of formats. They also insist on the ability to customize interfaces, to tailor content to their precise needs and to have that content come to them on their timetable wherever they are.

NAL now
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ways to make
its seventeenstory building

—and all that's within it—fit elegantly on a three-inch screen.



¹ An Act to establish a Department of Agriculture, 12 Stat. L., 387.

In other words, NAL now needs to find ways to make its seventeen-story building—and all that's within it—fit elegantly on a three-inch screen.

Fortunately, the same technology that has raised customers' expectations has also provided some means to satisfy them, though not without cost.

This report lays out that cost and charts the course toward a future in which NAL staff use those technologies—and others still beyond the horizon—to bring customers together with the precise information they need quickly, efficiently and flexibly. It is a roadmap of sorts, one developed after three years of staff discussion that identifies the key routes, highlights the road hazards and calculates the fuel, food and maintenance expenses along the way.

Each chapter addresses a major facet of NAL's operations—services, collections, marketing, partnerships, infrastructure and facilities—and opens with a table summarizing the additional funding request for that area. This layout is intended to simplify review and facilitate discussion. It is *not* meant to suggest a menu from which individual programs or services can be selected for financial support to the exclusion of others. Their interdependence effectively precludes such an approach. Instead, the Library seeks funds spread across the operational areas identified.

Furthermore, the financial figures provided estimate the *additional* funds NAL will require to make the journey. These figures do *not* represent money currently available to the Library through its annual appropriation. For the past ten years, the current budget has barely kept pace with inflation, severely hampering the Library's ability to maintain its collections and curtailing the development of new services. The funds requested are intended to counteract that trend and to jump-start the Library after more than a decade of stalled budgets. They will also allow NAL to meet its customers' growing expectations by making complex agricultural and environmental information a simple search and click away.

No single library, or even group of libraries, can do what NAL does. No single library or group of libraries holds the kind of materials NAL does. No single library or group of libraries can serve the national mission entrusted to NAL. Whether in the fields of biofuels, invasive species or organic farming, whether serving consumers, researchers or members of Congress, NAL provides equitable access to its one-of-a-kind collection and unparalleled service to the Nation.



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osmosis,
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But advancing technology is driving customers to want more, to need more, and NAL wants to be there for them.

Push information out. Pull information in. Absorb information as part of one's daily immersion in work flow and/or life. This is how a rational being grows in understanding the world in which he or she lives. Push, pull, osmosis . . . In the ideal information environment, everything is there at the point of need—immediate access, immediate integration . . . If the expectation is that productive knowledge workers will be able to operate by knowledge osmosis, there's a lot of work to do.²

For NAL to do that work, to be there at the point of need, to be part of that push and pull, the Library requires the additional funding laid out in this report. Without it, NAL will be unable to satisfy its mandates in the way this century demands.

² Jill O'Neill, "Push, Pull, or Osmosis," NFAIS Enotes, December 31, 2007.



National Agricultural Library

Services: Quality Information for All, Everywhere, All the Time

Enhance All Services by 2012

\$22 million

- * Expand AGRICOLA coverage of ag literature
- * Establish a single search across DigiTop databases
- Develop customizable, mobile reference

\$12 million

\$5 million

\$5 million

NAL must be omnipresent and

always on, providing

constant

access to quality information in the digital environment, in line with

and expectations.



The National Agricultural Library (NAL) has a dual mandate: to serve as the library for the Nation and for the United States Department of Agriculture (USDA). Fulfilling that mandate in the 21st century brings new challenges. NAL must be omnipresent and always on, providing constant access to quality information in the digital environment, in line with customer needs and expectations. To succeed, NAL must build upon its current services by developing entirely new ways to deliver information for a broad and demanding customer base, but the new must not come at the expense of the old.

Before personal computers and surfing the Web became the norm, NAL engaged in "traditional" library services: collecting materials, organizing and maintaining them, making them available for researchers and using them to answer questions. Then, the 1990s brought huge technological and cultural changes—the Internet connected millions of people as never before—but interestingly, that shift did not replace the need for those core library functions.

• The Library still purchases books, but now it also acquires electronic journals and scientific databases.

• Staff still organize the Library's holdings, but they are doing so using the online catalog (AGRICOLA), NAL's Web site and specialized databases.

 \Diamond

- NAL's building remains open to researchers, but they are more likely to visit electronically now, so staff members digitize what they can and make the Library's holdings available on the Web.
- With the Web's expanded customer base
- And Library staff still answer questions, about 12,000 annually, but they are more likely to send an email with a digital copy of an article attached than to drop something in the mail.

expanded
needs.

In the end, Library tasks remain the same; the methods, however, have changed. Customers have noticed and have responded positively:

Having the NAL is a great resource. And being able to request articles electronically sure beats filling out that form like a few years ago.

—USDA staff member

I love the downloadable nutrient data base. I am developing a line of protein snacks and it makes it very convenient to evaluate various recipes. Thanks.

—Small food manufacturer

I have been extremely happy with your service. The librarian I spoke with was interested and knowledgeable, and the results of those searches have been of great value in conducting my job and staying abreast of the latest research and thinking. I look forward to the emails I receive from you and the response time on materials that are not available on line is a day or two at most. In a world where I am often filling out complaint forms and emails to correct poor service it struck me recently that I should also recognize those folks who are providing superior service. Keep up the good work and thanks again.

— USDA Natural Resources Conservation Service staff member

A couple of weeks ago, I got a phone call asking me if I needed "DigiTop." Today I got some Web training in DigiTop, and learned what it is . . . [and] I learned that I need DigiTop very much.

—USDA Natural Resources Conservation Service civil engineer

The shift to a digital world has brought its challenges, however, by multiplying the Library's audience exponentially. More people can now access NAL services, and they do. Over the past decade, NAL's annual volume of direct customer service transactions increased fifteen-fold, from about six million transactions to about 90 million. Why? Because people increasingly use NAL's extensive Web-based services.

As NAL takes advantage of the Web to increase usage and exposure of its services, NAL staff are learning how to make NAL information more apparent and relevant to Web search engines. The following chart shows how well NAL has done in making NAL information prominent in Web search engine results:

Over the past
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+

Search Engine Ranking of NAL Programs (February 2008)

		Search Engine Ranking		
Information Center	Search Term	Yahoo	Google	Ask.com
Alternative Farming	alternative farming	I	I	I
Animal Welfare	animal welfare	I	I	I
Dietary Supplements*	dietary supplements	I	I	
Food and Nutrition	food and nutrition	I	l	I
Food Safety Research	food safety research	I	I	
Invasive Species	invasive species	1	I	I
Nutrition.gov	nutrition	I	I	
Rural Information	rural information	ĺ	Ī	
Water Quality	water quality	2	8	l

^{*}International Bibliographic Information on Dietary Supplements

With the Web's expanded customer base come expanded needs. To determine those needs, NAL commissioned an extensive online customer survey from Outsell, Inc., a company specializing in consulting services for the information content and services business sector. The 2006 survey, approved by the Office of Management and Budget (OMB), garnered responses from more than 6,000 people across USDA and the Nation.

The results are enlightening.¹

The large majority of respondents (81%) rely heavily upon the Web as a source for information.

As a result, they want NAL to be more like the rest of the Web. That is, people want simple. They want a single search point as provided by Google, Yahoo and other Web search engines. They also want NAL itself to be simpler; they are currently confused by the number of different services NAL offers.

They also want access to full-text digital content.

In sum, they want one search, one click, and the information they need.

Can NAL Deliver?

Outsell reported that NAL services are well-received and on target, matching people's "unmet needs," but with over half the survey respondents not even aware of NAL, the Library needs to focus as much attention on marketing as on service delivery.

Outsell concluded that NAL has the opportunity to become "the number one resource for all things related to food, agriculture, and forestry," but to do so, NAL needs to invest its energy in the Web environment and fervently market its digital offerings. NAL's future lies in building "a 24/7 online full-text service that is multifaceted to meet the needs of a diverse user population."



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¹Outsell, Inc., Custom Report: Prepared for the National Agricultural Library: User Needs Assessment, Phase Four Report, July 2006.

NAL staff have been working to implement the Outsell recommendations since 2006, with the following first steps already underway:

- 1. A new and simplified search function is being deployed that will allow customers to search the content of the NAL Web site along with NAL's extensive online catalog (AGRICOLA).
- 2. AGRICOLA, currently invisible to Web-based search engines like Google, is being retooled to allow these search engines to reveal its contents. Such exposure should expand AGRICOLA's usage—and NAL's audience—even further.
- 3. DigiTop, NAL's database service for USDA staff, has been linked to Google Scholar, allowing USDA researchers to connect directly to articles subscribed to on their behalf.

That last improvement is already earning accolades:

I just wanted to let you know that I have found it useful when searching Google Scholar and finding a reference that I am interested in to have the direct link to NAL that has recently become available. By pressing the NAL tab, a request form pops up that is pre-filled with the reference information. The only further information that I have to provide is my ID and project numbers. This is very helpful and saves so much time. Thank you for setting it up.

—USDA Staff Member

NAL still has far to go, however, in providing those new services its customers demand.

In order to meet users' needs for full-text resources, NAL must markedly increase its collection of digitized materials. The Library estimates it can digitize 60 million print pages by 2012. This digitization effort, outlined in Chapter 2, is a key step in bringing NAL's important and unique materials to the world and a seminal element in the creation of the National Digital Library for Agriculture.

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The expansion of AGRICOLA's coverage of agricultural literature also stands out as a key goal. As detailed in Chapter 2, the Library must expand its book and journal collections to keep up with researchers' demand for comprehensive, authoritative sources. Once that is achieved, NAL will expand the number of journal articles indexed in AGRICOLA to 150,000 a year, from the current 60,000, a scaling up of work that will require an additional \$12 million. This deeper and wider indexing will facilitate discovery and enhance the research process, bringing users and resources together more quickly and efficiently.

Also on the efficiency front, NAL staff are envisioning new ways for customers to search across the multiple commercial databases within DigiTop. Currently, each database must be searched separately, a repetitive process that wastes time and money. The new method under consideration aims to improve upon that by creating a search that works smoothly and fluently regardless of the variety of databases beneath it. This single search point will yield precise and complete results for customers. The complete system would come to life through a multiyear plan that will take an additional \$5 million to carry out.

And in a nod toward the cell phones and personal digital assistants that have become our constant companions, NAL is exploring ways to push information out to these devices and to make this seventeen-story building and its millions of items fit elegantly on a three-inch screen. Library staff also see the need to expand options for presenting information using visual displays or "mash ups" that combine textual, numeric and graphic information to answer questions and present information in innovative, revealing ways. These ideas and others exploit the expanding edges of technology both to meet customers where they are and to give them the data they need in customizable, individualized ways. Another \$5 million will launch these explorations over the next five years and reorient reference toward new territories, possibly redefining the whole endeavor along the way.



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As these examples indicate, NAL staff are regularly monitoring new technologies and trends for ways to provide information services that deliver the digital content, personalized services and simplified access customers have come to expect. But these new ideas always build upon what NAL has already established: solid, dependable services; quality, accurate information; and dedicated staff. In the coming years, the Library is committed to maintaining such excellence while offering new services and winning over more fans.

Your experience goes a long way—and you are quite right that what is true this year may be very different a few years down the road. Thanks again—you know Senator X's office remains one of your biggest fans!

— Staff Assistant to a U.S. Senator



National Agricultural Library

Collections: A National Treasure at Risk

Enrich the Collections by 2012

Purchase materials

Convert 60 million pages to digital

Catalog/index the "hidden collections"

Provide access to 10 million manuscript pages

\$276.3 million

\$111 million

\$150 million

\$3.3 million

\$12 million

Reference Falls

A Childs Seed Catalog (1894) suffering from "brittle book syndrome" has not been preserved due to lack of funds.

A National Treasure and Heritage Asset

The National Agricultural Library (NAL) is the steward of the largest collection of publications devoted to agriculture in the world. It houses and provides access to over 2.4 million volumes of books and periodicals and over 3.6 million government documents.

The Library also safeguards many rare, fragile, unique and irreplaceable works. Most of the Library's physical items were published or created more than 25 years ago, some as many as 500 years ago, and almost all are out of print and unavailable for purchase. Among these, the one-of-a-kind manuscripts, letters and association records represent a sizable chunk of agricultural history. Though normally quantified as 365 special collections, these documents, photos and records actually number close to 39 million items and stretch over 3.7 miles of shelving.

As these numbers might suggest, the NAL collection ranks highly among its peers for uniqueness, eleventh overall among the 123 members of the Association of Research Libraries (ARL). The Library holds 166,435 unique book and journal titles, nearly nine times the ARL average of 19,000, and above such heralded academic libraries as the University of California, Davis and the University of Wisconsin. As Constance Malpas, Program Officer at Online Computer Library Center, Inc. (OCLC) and author of the study, noted, "These are impressive figures by any measure." She added:

One might infer from this that the NAL's leadership role in promoting equitable access to agricultural information would reasonably include a continuing commitment to preservation and effective disclosure of its unique holdings, so that the riches NAL has acquired on behalf of the nation continue to provide a return on investment.³

Notably, OCLC's analysis could not include the Library's so-called hidden collections, those publications, most pre-1970, that lack online cataloging or indexing information. With the cataloging data for these three million historical gems available solely in physical card files or printed lists, they remain out of reach to NAL's online catalog (AGRICOLA), OCLC and Web search engines such as Google and Yahoo. With these added, NAL's unique titles count would undoubtedly go up, and, of course, these treasures would become more broadly available to the world.

Add to these millions of printed publications the 14 million articles and 64 million records in DigiTop's online journals and citation databases, and one can easily see that NAL's collection is a national treasure, imposing in size and extraordinarily unique. As a result, it has been designated a "heritage asset" of the United States Department of Agriculture (USDA) and valued conservatively at more than \$420 million.

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NAL's collection

¹Constance Malpas, "Measuring Uniqueness in System-wide Book Holdings: Implications for Collection Management," American Library Association 2008 Midwinter Meeting, Philadelphia, January 12, 2008.

² Malpas, e-mail message to Karl E. Debus-López, January 16, 2008.

³ Malpas, e-mail message to Eleanor Frierson, January 29, 2008.

A Treasure at Risk

That asset, however, is at risk, with serious consequences for agriculture, the environment, USDA and the Nation.

For the past seventeen years, the NAL budget for acquiring print and digital publications has not been funded adequately, as evidenced by the following:



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Nation.

- The resource budget has dropped by 62% (using constant 1990 dollars).
- The number of serials purchased has shrunk by 63%, from 8,310 to 3,084.
- Most foreign journal subscriptions have been cancelled.
- Foreign monographs are no longer actively acquired.

These cuts to NAL's acquisitions budget have not gone unnoticed. With NAL unable to collect at its previous levels, USDA scientists, technical specialists and other customers are less able to access small press, society, association and foreign publications. In addition, U.S. libraries can no longer rely on NAL to acquire a broad range of publications. While some libraries might spend more to satisfy local needs, many simply do without, leaving their customers under-served. Even in more populated areas of the country, this gap in service persists, as local college and university libraries often serve only their immediate campus communities.

Even as the acquisitions budget has fallen, NAL has had to handle a shift in people's expectations about digital content. With demand for online content growing, NAL must increasingly spend more of its limited funds leasing access to electronic journal collections, a move that meets NAL customers' current needs, but at a tremendous cost *and* significant risk.

Access to commercial digital content is normally rented via leasing contracts, not purchased. Though these contracts oblige publishers to provide permanent access to the digital content, this arrangement does not always persist. Publishers go out of business, and with that, their digital content could disappear, making it difficult for libraries to ensure permanent access to commercial digital content. Leasing digital content then puts future access at risk for current convenience.

Also at risk, though due to different factors, are the unprocessed manuscript holdings within Special Collections. Until these ten million items are properly processed and preserved, they remain simply tucked away in boxes, vulnerable to the ravages of time. And because they are not yet accounted for item by item, the Library has no real idea of what it could be losing, what significant piece of science or history might crumble away before being preserved. Bottom line, preservation is a race against time, and right now, the Library is ten million items behind.



Another of NAL's unique treasures, rapidly deteriorating before it can be preserved.

Proposed Solutions: Restoration, Access and Preservation

Clearly, the NAL collection, whether physical or digital, is a treasure at risk. But what can be done to reverse the trend?

First, the Library requires an extra \$24 million annually, plus inflation (\$111 million through 2012), to restore its digital and print collections:

- \$15 million annually funds licenses for electronic journals, databases, electronic books and other electronic publications *with permanent data rights for long term preservation* where possible.
- \$5 million annually restores cancelled print subscriptions and book purchase arrangements and funds new acquisitions to support burgeoning fields of research.
- \$1 million annually purchases Special Collections materials, such as key manuscripts, rare books and artifacts.

• \$3 million annually pays for additional staff to procure and process materials.

Second, the Library must make visible its "hidden collections" by creating online citations for those three million items. This \$3.3 million investment allows these important historical books, journals, maps and materials to become known again, exposing them to online searches and making them available for use.



Converting print publications

into digital form is nothing

short of a

major financial investment. Third, NAL needs to devote more resources to digitization. Digitizing as much as possible of NAL's physical collection offers one way to safeguard the present for posterity, with tremendous benefits for today's customer. Items once available only to people who visited the Library would then be seen by people around the world via the NAL Web site, increasing usage, ensuring permanent public access and preserving many of NAL's treasures.

Such work has already met with great success. A university scientist who benefitted from NAL's current digitization work recently commented:

I really, really appreciate that these items are available online . . . Having these on PDF is a huge help, thank you for all the effort put into making this available.

—Plant Biologist, Dept. Ecology & Evolutionary Biology, University of California, Los Angeles

As this scientist notes, easy access does require effort *and*, of course, expense.

While engineering advances and standardization of formats have reduced greatly the risks involved in digitization, the process remains costly and laborious. Scanning charges have certainly decreased, but when per page costs are multiplied by physical works numbering in the millions—and then supplemented by cataloging, indexing, software and hardware costs—converting print publications into digital form is nothing short of a major financial investment.

NAL estimates it can digitize 60 million pages of print publications by 2012. Based on the current costs for digitizing technologies, such an effort will run about \$2.50 per page and require a total investment of \$150 million.

Digitization will not work for all items, however, and so finally, the Library must turn to detailed conservation measures designed to slow the deleterious effects of time, light and humidity on the rare and fragile materials in its collection.

Such work does not come cheaply. Processing and conserving the 10 million unprocessed items from Special Collections will require \$12 million between now and 2012. These funds will allow each piece to be individually conserved, cataloged and indexed, and its location at NAL made known to the worldwide research community.

It has been said that library stewardship is a gift of one generation to the next. In the case of NAL, many generations have contributed to the creation of the Library's collections, and it is this generation's responsibility to preserve and enhance this precious gift.

NAL's collection has stood on its laurels for decades, but it cannot do so much longer. Aside from its slow growth and its physical troubles, its most salient characteristic—its usefulness—is also teetering. Growth and maintenance are essential to its continued relevance, and its relevance is essential to agriculture and the environment.

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National Agricultural Library

Marketing: Analysis and Action

Survey Customers Regularly through 2012

\$1 million

Marketing is fundamentally about analysis—analysis of customers, both current and potential; analysis of competitors and competitive forces; and analysis of the company or institution itself, of its strengths, weaknesses, culture and partnerships. Once that analysis has been done, and only then, can one move on to deciding on a course of action, determining whom to target and what to emphasize, and then carrying out that plan.¹

From 2001-2006, the National Agricultural Library (NAL) commissioned two studies and a major Web-based survey to assess its programs and services and their alignment with customer needs and expectations:

- Interagency Panel for Assessment of the National Agricultural Library. *Report on the National Agricultural Library*—2001, August 2001.
- Michael Crandall. Web Technologies Analysis: Conducted for the National Agricultural Library, December 2003.
- Outsell, Inc. Custom Report: Prepared for the National Agricultural Library: User Needs Assessment, Phase Four Report, July 2006.

¹ Allen Weiss, "What Is Marketing?" *Marketing Profs*, November 26, 2002, http://www.marketingprofs.com/2/whatismarketing.asp (accessed March 3, 2008).

Each report offers a different perspective, but together, they create a well-rounded view of NAL's customers and competitors, along with key insights about the Library itself.

- Customers: With its dual mandate to serve as the agricultural library to the Nation and to USDA, NAL serves a variety of customers, ranging from consumers to members of Congress, from students to advanced scientific researchers, from hobbyists to professionals, from novice farmers to agribusiness. Within this varied group, those interested in food and nutrition, whether consumers or nutrition professionals (e.g., nutrition educators, Women, Infants and Children program managers, and school meals specialists), use NAL's services most frequently.
- Competitors: In the information industry, the Web itself is viewed as the biggest competitor for libraries. Eighty-one percent of NAL's customers rely heavily upon the Web as a source for information, with over half of them using search engines to find what they need. The authority inherent in libraries is being challenged by the ease and ubiquity of Web-based information from wildly divergent sources, some of which are authoritative, many of which are not.
- Opportunities: Outsell reports that invasive species, water quality, diet and nutrition, forestry, alternative farming and agricultural products all stand as topic areas in which customers are interested but cannot find the information they need. Since NAL already has significant holdings in these areas, both electronic and print, they offer obvious avenues for publicizing NAL resources.

In other areas, the Library has the opportunity to grow its market share by providing more full-text materials online. Thirty-seven percent of those who responded to the Outsell survey see NAL's provision of full-text as its "most important future offering." No other possible future service received over 10% of respondents' support.



A sampling of the most popular search terms across the NAL Web site. Font size indicates how often a term is searched.

NAL's
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electronic
access over
physical.

And while the Web itself appears to compete with libraries, it also opens up untold vistas. Outsell recommends partnering with Google to increase the Library's exposure, to build awareness and to increase use of NAL's valuable and unique collections. Similarly, NAL's current involvement with the Agriculture Network Information Center (AgNIC) and the burgeoning National Digital Library for Agriculture (NDLA) presents additional chances for NAL to exploit the rich opportunities available in the digital realm.

- Strengths: NAL's collection ranks eleventh in collection uniqueness among North America's 123 largest research libraries. The Library also scores well in information accuracy and quality, two issues that touch the heart of library services. In addition, Library staff bring decades of experience and unparalleled commitment to their work, and the partnerships in which NAL is already engaged help attract customers and leverage NAL's resources.
- Weaknesses: Despite its national standing and prominent role, NAL remains an unknown entity to many potential customers. Over half the respondents (52%) to the Outsell survey were not even aware that NAL exists.

Furthermore, the variety of services at NAL, each with a different name, confuses customers, dilutes the NAL brand and displaces core assets. People might not even be aware that they are using the Library when, in fact, they are, because of the variety of names involved.



Obviously, like all organizations, NAL has its strengths and weaknesses, but it also knows its competition and has identified key opportunities for growth. With these elements in hand, NAL is well positioned to act, and to act with clear purpose, particularly since the three reports agree on one major element: *digitization*.

The most recent report, Outsell's analysis of our customers' needs and wants, states the basic point well—that NAL's future lies in building "a 24/7 online full-text service that is multifaceted to meet the needs of a diverse user population." Such a future requires an institutional shift, one that emphasizes digital formats over print and electronic access over physical.

That basic shift—from the physical to the digital—is likely a permanent one. However, with technology evolving and customer expectations changing, no one can be sure what formats or means of delivery will next crest the horizon. Therefore, NAL cannot assume that this singular bit of information will carry it through the next decade. Instead, the Library needs to continue routine and periodic surveys of current and potential customers, requiring an investment of approximately \$1 million between now and 2012. Such recurring analysis will allow NAL to confidently select and implement a course of action for its ongoing development, one that targets the right people the right way at the right time, ensuring efficiency, effectiveness and good stewardship of public funding.

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National Agricultural Library

Partnerships: Outreach and Involvement

Build & Strengthen Partnership Initiatives \$12 million

Support AgNIC's digitization efforts
 \$4 million

Improve AgNIC's technology infrastructure
 \$1 million

Contribute to two new Web portals

Create the National Digital Library for Agriculture
 \$5 million

Partnerships are the ultimate win-win.



The United States Department of Agriculture (USDA) and the National Agricultural Library (NAL) both have long and proud histories of encouraging partnerships in support of agricultural practice and scientific research, whether with other Federal agencies, land grant universities or the private sector.

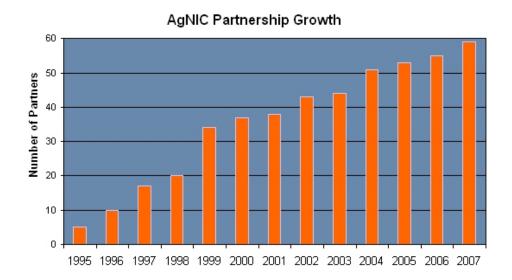
Today, with technology rapidly advancing and budgets shrinking almost as fast, these partnerships are more important than ever. They provide a range of cost savings, including leveraging resources, sharing skills and collaborating on projects. In addition, partners' diverse perspectives open new vistas, while the communities the partners represent supply readymade channels for marketing services. Partnerships are, in the end, the ultimate win-win. Every partner brings something to the table, and every partner benefits from the outcome.

A Solid History of Partnerships

In recent decades, NAL has particularly sought out new strategic alliances. The Library has helped establish major partnerships involving the land grant universities and has shared in the development of three major collaborative Web portals, with two more on the way.

\$2 million

AgNIC, the Agriculture Network Information Center, stands as one of NAL's strongest and broadest partnerships. Founded in 1995 by five institutions, this alliance has swelled to 59 members around the world, with NAL providing the AgNIC secretariat, managing the Web portal and contributing some funds for projects.



Together the members of AgNIC focus on Web-based agricultural information, selecting and organizing objective and authoritative resources—from Web sites to articles, databases and images—on an amazing array of agricultural and environmental topics. Each partner in the alliance concentrates on one or more of those specialized subject areas, so all partners and their customers benefit from the group's contributions. Their success is obvious. In FY2007, the AgNIC member Web sites received more than 150 million hits.

But with more projects in the works, NAL is seeking additional funds to support AgNIC's endeavors, specifically:

- \$4 million to support the creation of full-text digital content by AgNIC members; and
- \$1 million to improve AgNIC's technology infrastructure.

American Distance Ed Consortium • Animal & Plant Health Inspection Service • Clemson • Colorado St • Cornell • CYFERnet • Farmland Info Center • Iowa St • Kansas St • Michigan St • Mississippi St • National Agricultural Law Center • National Wildlife Research Center • New Mexico St • NC St • N Dakota St • Oglala Lakota College • Ohio St • Penn St • Purdue • Rutgers • Texas A&M • TropSCORE • U Arizona • U Arkansas • U Cal, Riverside • U Georgia • U Hawaii • U Illinois • U Maryland • U Minnesota • U Nebraska • U Tennessee • U Vermont • U Wisconsin • Washington St • West Virginia WinterSown Ed Org

On the Federal side, NAL has also helped envision, create and manage three highly-lauded Web portals:

- InvasiveSpeciesInfo.gov, a reference gateway to information, organizations and services about invasive species;
- Nutrition.gov, a gateway to the best food and nutrition information from across the Federal Government; and
- Science.gov, a search engine for government science information and research results drawing from over 1,800 scientific Web sites.

These portals give citizens unified and simplified access to information from many Federal sources. A recent review of Science.gov upon its fifth anniversary shows the impact such collaborative sites can have:

With its scope, browsability, searchability, and well-organized index, Science.gov is more than a portal. It's nothing less than a momentous electronic book. Authoritative content combined with a sophisticated, robust search engine and continual attention to ranking precision demonstrates a noteworthy level of commitment to providing the research community and other interested individuals with a dependable and valid access point to important yet difficult-to-find information. At a time when some U.S. government undertakings seem to lack relevance or direction, Science.gov is one project that "gets it right." ¹

NAL is expecting to attain similar success with two other Web portals it is helping to establish:

- WorldWideScience.org seeks to build upon the success of Science.gov by supplying access to enormous quantities of scientific information from partners around the world.
- VetMedInfo.gov will provide a sorely-needed central point of information for veterinary practitioners.

An additional \$2 million is required to create these portals.

At a time when some U.S. government undertakings seem to lack relevance or direction,

Science.gov
is one project that
"gets it

"gets it right."

 $[\]Leftrightarrow$

Nick Tomaiuolo, "The Go-To Portal for Science," The CyberSkeptic's Guide to Internet Research 13 (January 2008): 6-7.

The Future of Agricultural Information

Taking Web portals to the next level might be one way of describing what NAL envisions for the future. NAL has already consulted with a broad range of potential partners about the creation of a new and far-reaching cooperative, the National Digital Library for Agriculture (NDLA), that could change the face of agriculture.

When the NDLA was first proposed, the Interagency Panel for the Assessment of the National Agricultural Library recommended that NAL take the lead in its development, citing the Library's mandated leadership role among U.S. agricultural libraries and the success of past NAL partnerships. As the Interagency Panel saw it, the NDLA would then serve as "the main focus and long-term organizing principle for NAL and the national network of university and industrial libraries."

That is a simple but profound vision.

Implementing this recommendation will provide the Nation with a comprehensive collection of important agricultural information on the Web, including a large collection of digital versions of publications previously available only in print.

Already NAL and partner institutions have been digitizing content and testing technology. The Library also crafted a "proof of concept" Web site in 2007 to demonstrate what components and features the NDLA would include. Key among them: the ability to search across large collections of digital content provided by all participating institutions.

Such a significant undertaking will obviously be a major, multiyear initiative. In addition to funding for NAL digitization (described in Chapter 2) and the creation of digital content by AgNIC partners mentioned above – all of which will feed into the NDLA – NAL will require \$5 million to manage, coordinate and technologically support the project.

The NDLA
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ultimate
partnerships.



² Interagency Panel for Assessment of the National Agricultural Library, *Report on the National Agricultural Library*—2001 (August 2001): 36.

Once built, however, NAL anticipates that the NDLA will continue to grow just as physical libraries grow, constantly adding new articles, books, maps, databases and more, but it will grow more rapidly and more deeply because of the partnerships that are behind it.

As stated earlier, partnerships are the ultimate win-win. And the NDLA might be among the ultimate partnerships, bringing together a wide range of Federal and academic institutions to make agricultural information, data, and services available to the Nation and the world through one simple and precise search.



National Agricultural Library

Operational Infrastructure: Foundation for Excellence

Enhance Infrastructure by 2012

\$6.28 million

Upgrade security equipment and computer hardware and software

Build server and storage systems for increased digitization

Purchase and install an enhanced online catalog application

\$750,000

\$1.9 million

\$230,000

Install a building-wide wireless network

\$100,000

• Hire administrative staff (Program staff included in proposals in Chapters 1-4.)

\$3.3 million

NAL is caught

in the same

technology whirlwind as

the rest of the world. Miraculous as technology is, it

does not yet install, customize or run itself. Nor is it free.



The National Agricultural Library (NAL) serves as the primary agricultural information resource of the United States. To be responsive in that role, the Library requires a solid and reliable infrastructure that includes state-of-the-art security, information technology and telecommunications systems, along with sufficient and effective administrative support.

NAL is caught in the same technology whirlwind as the rest of the world. But as miraculous as technology is, it does not yet install, customize and run itself. Nor is it free. And the wonder that technology brings does not last. Obsolescence, while not instantaneous, certainly arrives quickly. And security risks are always around the corner.

Given this milieu, NAL must continually upgrade and update its hardware, software and security systems to stay current, relevant and safe, but the current budget has forced the Library to defer some of this maintenance or tackle only portions of it. This important and essential work can be no longer be done halfway. Before anything else, NAL must keep the building, its contents and the staff secure. Toward that end, the Library will need extra card readers that can work in conjunction with the new employee ID system to be implemented in the coming year. The building also needs additional security cameras to close gaps in coverage, and some aging security equipment needs to be replaced to ensure it will function properly when needed.

Another base-level expense covers computer hardware and software upgrades that will not happen without additional funding. These replacement and maintenance costs include:

- new desktop computers and network servers scheduled for replacement on a five-year cycle;
- new network routers;
- a new core switch for Internet connectivity; and
- a test lab and test network to check application compliance with the upgraded protocol IPv6 (Internet Protocol, version 6).

All total, these security, hardware and software upgrades are expected to run \$1.9 million through 2012.

But these upgrades only allow the Library to catch up on basic maintenance. They do not reflect real progress or innovation. The latter calls for additional technological investments, as the Library pursues the following projects over the next five years:

• Expanded digitization and delivery of full-text resources. This venture, essential to much of what NAL envisions for its future, will need additional servers and substantial digital storage to hold the resulting files. It also requires software to seamlessly deliver the digital content when requested. (\$230,000)



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The Library has created some powerful models for what its services could look like in the future, but the infrastructure to support them is lagging

- An enhanced online catalog application. The present system, while state-of-the-art five years ago, fails to satisfy customer needs¹ and lacks the flexibility to integrate with other Web services, leaving valuable data locked in their own silos, useful but isolated. (\$750,000)
- A building-wide wireless network. This advancement will turn the building into a truly flexible workspace, giving workshop and meeting attendees easy and immediate access to the Web, facilitating information discovery and collaboration, and simplifying document delivery and inventory projects in the stacks. (\$100,000)

These endeavors, along with others detailed throughout this report, call for staff who are skilled in technology, from programmers to systems administrators, functional auditors, evaluators, power users and trainers. Many of these roles can be filled by current staff, but NAL also expects to recruit up to fifty tech-savvy employees to implement the programs detailed in this report, along with future services yet to be envisioned.

These IT and program staff will need an equally knowledgeable group of support personnel to help them get their jobs done. Ten new staff will be needed to carry out a range of clerical, organizational and managerial functions (finance, procurement, operations, engineering, facilities, etc.), and they will be selected for practical know-how and a keen sense of efficiency.

To make these administrative positions real, NAL requires additional funding, approximately \$3.3 million through 2012. And to get staff on board, the Library is ready to explore alternative staffing measures, whether through term appointments, contracts or cooperative agreements.

behind.

¹ Based on user feedback received through the Web-based American Customer Satisfaction Index, ForeSee Results, 2007-2008.

Whatever the means, the Library recognizes the need for a full complement of support staff to work in the trenches so that program and IT staff can bring new services to life. As noted in one of NAL's recent assessment reports, "The library has created some powerful models for what its services could look like in the future, but the infrastructure to support them is lagging behind."²

We have the opportunity to correct that. With approximately \$6.28 million, NAL can set things right operationally, building strong security, information technology and telecommunications systems, and establishing administrative support teams that efficiently marshal resources toward the core mission.

Each of these is essential to the Library's overall success. Without any one of them, the tower falls, but with each solidly in place, the Library has the opportunity to reveal its strength and fulfill its mission to USDA and the Nation.

²Michael Crandall, Web Technologies Analysis: Conducted for the National Agricultural Library (December 2003): 37.



National Agricultural Library

Facilities: Support for Stewardship and Effectiveness

Improve or Replace Facilities by 2026

\$159.4 million

The Library's collections . . . are deteriorating

rapidly
due to the current

condition of the building.



The National Agricultural Library (NAL) occupies the Abraham Lincoln Building, an imposing seventeen-story structure built in 1967. That building serves two primary purposes:

- 1. To house NAL's impressive collection of materials, a collection valued conservatively at more than \$420 million; and
- 2. To accommodate staff and the tools they need to fulfill their mission.

Unfortunately, the aging building fails on both counts.

In April 2007 the General Services Administration (GSA) performed a comprehensive assessment of the Library facility, at the request of the Agricultural Research Service (ARS) and NAL. Their report carefully evaluated the impact of the current aging facility and infrastructure on the long term viability and stability of the Library's mission and collections, and presented alternatives, both financial and functional, with projections out to 2026. The following review and recommendations draw heavily from GSA's findings and conclusions.

¹ General Services Administration, Requirements Development and Repositioning Study, 2 vols. (April 2, 2007).

Current Conditions: A Bill Coming Due

The Library's collections (books, mixed media, prints, manuscripts and other holdings) are deteriorating rapidly due to the current condition of the building. These valuable materials, conservatively valued at \$420 million, are exposed daily to fluctuating temperatures and excessive moisture. The building's condition also puts them at higher risk during storms, when winds and rain penetrate the failing windows.

These threats persist because the facility suffers from long-term deferred maintenance and renovation needs too long ignored. Already the building has required significant capital outlays to maintain operations, as detailed below.

Prior Year Capital Expenses			
Fiscal Year	Total Expenses		
1994	\$628,000		
1995	\$552,516		
1996	\$642,797		
1997	\$771,230		
1998	\$3,271,000		
1999	\$2,503,000		
2000	\$688,000		
2001	\$3,831,777		
2002	\$2,878,020		
2003	\$2,820,518		
2004	\$1,856,873		
2005	\$2,174,261		
2006	\$865,518		
2007	\$865,518		
2008	\$859,459		
Total	\$25,208,487		

Note: The costs represent all expenditures related to the building, including repair and maintenance (R&M) funding reserved for this purpose as part of NAL's annual appropriation; Congressionally appropriated buildings and facilities (B&F) funding; and funding made available to NAL from ARS headquarters and project funding.

Furthermore, the projected price tag (FY 2009 – FY 2012) for deferred items is estimated at \$44.5 million.

	Estimated Repair Expenses (FY 2009 - FY 2012)			
	Description	R&M	B&F	
1	Miscellaneous repairs	\$4,327,590		
2	Ground and balance of 1st floor		\$9,074,160	
3	Tower windows		\$2,803,680	
4	Exterior repairs		\$756,000	
5	Floor clusters 6 - 9		\$3,423,600	
6	Floor clusters 10 - 13		\$3,697,920	
7	Floor clusters 2 - 4		\$7,845,120	
8	Renovation 14th floor		\$3,099,600	
9	Renovation of book lift		\$384,480	
10	Life safety upgrades		\$1,691,280	
11	Bathroom retrofit		\$1,749,600	
12	Veneer masonry package, phase 2		\$1,500,000	
13	Miscellaneous projects		\$2,160,000	
14	Miscellaneous work		\$2,000,000	
	Totals	\$4,327,590	\$40,185,440	

Note: B&F = buildings and facilities R&M = repair and maintenance

In short, the building needs work.

And while the building itself does not create satisfactory conditions for library materials, the space available also misses the mark. To improve operational efficiency and to lower operating costs, the Library actually needs *less* space to be most effective and economical.

Current Facility Size	Projected Space Requirements
340,000 gross	Conventional Shelving: 210,800 usable square feet
square feet	High Density Shelving: 97,300 usable square feet

Note: The office space and supporting space requirements remain constant in all future forecasts.²

²Ibid., 1:2.

On the staff side, the present building hampers service functions. As the Library increasingly moves toward digital collections and online research services, the work calls for a more flexible and modern space to operate effectively. Teams need greater proximity to each other and a more open floor plan to accommodate collaboration, and visitors need easier, direct access to the content specialists currently spread throughout the building.

Possible Solutions

Given these conditions, a range of alternatives is possible to address the building's shortcomings, from maintaining the existing facility as-is to constructing a new one, with a variety of points in between. The following table lays out the projected costs associated with these alternatives through the year 2026.³

Building Alternatives Summary			
		2018	Total Cost
Option	Initial Cost	Annual Cost	thru 2026
Existing Building			
As Is	\$36,485,558	\$7,352,481	\$148,382,715
Renovated	\$89,371,846	\$2,482,692	\$156,230,451
New Storage Addition	\$56,058,544	\$2,247,604	\$123,475,539
New Building			
Conventional Shelving	\$95,137,804	\$2,162,041	\$159,427,921
Compact Shelving	\$81,159,401	\$1,741,054	\$139,905,064
High-Density Shelving	\$59,643,194	\$1,361,209	\$113,386,242
Separate Locations	\$66,651,664	\$1,581,392	\$123,294,553

These costs could be partially defrayed through an Enhanced Use Lease (EUL).

³Ibid., 2: Appendix B, 1.



The Library's

SUCCESS

depends

upon the building itself

fulfilling its

basic

functions.

Recommendations

Weighing the anticipated costs against the needs of both the collections and the staff, the Library agrees with the following recommendations from the GSA report:⁴

- 1. Move the collection to a new high density storage facility, either adjacent to the existing building or in a separate location. Although costly, many comparable library operations in both public and institutional sectors have chosen this option. In NAL's case, this choice provides the following benefits:
 - Reduces the area requirements significantly, making the facility more efficient.
 - Lowers operating costs, which are currently double the industry norm.
 - Positions the collection for digital capturing, enhanced cataloging and improved accessibility, enabling NAL's valuable stores of data and research to be readily available to researchers worldwide.
- 2. Focus on technology and information integration vs. bricks and mortar. The future success of the Library hinges on its ability to leverage technology and the integration of the NAL collection with other agricultural collections nationwide and worldwide. Toward that end, the Library has been held captive by the extensive annual building repair and building equipment replacement costs, hampering efforts to grow digitally.
- 3. Maintain a front door presence in the National Capital Region. Keeping NAL close to its major customers (USDA, ARS, etc.) will encourage customer interaction, and a location in or around Washington, D.C. reinforces the Library's national role.

⁴ Ibid., 1:4-5

- 4. Create flexible staff and public space, whether adjacent to the high density storage facility or in a separate building in a different location, that supports NAL's operational evolution toward collaboration, digital collections and easy access to information.
- 5. Pursue partnerships with other organizations that are also seeking solutions to similar library, storage and digital enablement challenges and seek opportunities for cooperation that can provide cost savings, technical enhancements or ideas for improvement.
- 6. Obtain and utilize Enhanced Use Lease (EUL) authorities to defray overall project costs.

Over the last decade, NAL's aging and neglected facilities have compromised the long-term viability of the collections and hampered the Library's ability to fulfill its mission. To reverse that trend, NAL needs a financial infusion that exceeds the minimal life support of recent years and allows the institution to thrive.

The Library's success depends upon the building itself fulfilling its basic functions of housing the collection and accommodating the staff. Since the current building misses both marks, NAL recommends a new building be built, one that will offer a more efficient and effective environment that will support long-term preservation of and access to the valuable collections within.



National Agricultural Library

Conclusion: Jump-Start the Revitalization

The National Agricultural Library (NAL), a national treasure, a heritage asset and a valuable resource to the fields of agriculture and the environment, is in dire need of increased support and funding.

The Library has identified programs and services most needed by its customers, but they cannot be completed without a significant financial investment.

The valuable collection, imposing in size and extraordinarily unique, is at risk, as restricted budgets hamper its growth and prevent proper handling and preservation.

The aging facilities and flagging infrastructure cannot be shored up without a major monetary commitment.

And the National Digital Library for Agriculture, tagged as NAL's "long-term organizing principle" by the Interagency Panel for the Assessment of the National Agricultural Library, will struggle to grow beyond the concept stage without an infusion of funds.

To address these issues and to satisfy its mandates in the way this century demands, NAL will require total additional funding of \$317.58 million through 2012, with an additional \$159.4 million for construction of a new building by 2026.

The following table outlines how these funds will be applied:

The National
Digital
Library for
Agriculture...
will struggle
to grow beyond

the concept stage

without an infusion of

funds.



¹ Interagency Panel for Assessment of the National Agricultural Library, *Report on the National Agricultural Library*—2001 (August 2001): 36.

Additional Funds Requested			
Goal	Cost	Total	
Improve Library Programs through 2012			
Enhance All Services		\$22 million	
Expand AGRICOLA coverage of ag literature	\$12 million		
Establish a single search across DigiTop databases	\$5 million		
Develop customizable, mobile reference	\$5 million		
Enrich the Collections		\$276.3 million	
Purchase materials	\$111 million		
Convert 60 million pages to digital	\$150 million		
Catalog/index the "hidden collections"	\$3.3 million		
Provide access to 10 million manuscript pages	\$12 million		
Survey Customers Regularly		\$1 million	
Build & Strengthen Partnership Initiatives		\$12 million	
Support AgNIC's digitization efforts	\$4 million		
Improve AgNIC's technology infrastructure	\$1 million		
Contribute to two new Web portals	\$2 million		
Create the National Digital Library for Agriculture	\$5 million		
Enhance Infrastructure		\$6.28 million	
Upgrade security equipment and computer hardware and software	\$1.9 million		
Build server and storage systems for increased digitization	\$230,000		
Purchase and install an enhanced online catalog application	\$750,000		
Install a building-wide wireless network	\$100,000		
Hire administrative staff	\$3.3 million		
Programs Subtotal		\$317.58 million	
Improve or Replace Facilities by 2026			
Facilities Subtotal		\$159.4 million	
TOTAL		\$476.98 million	

After more than a decade of stagnant budgets, NAL needs . . . a financial jump-start.

This request represents an obvious and dramatic increase in funding for the Library, but after more than a decade of stagnant budgets, NAL needs just such a financial jump-start to enrich its languishing collections, boost its developing programs and burnish its reputation.

In 2001, the Interagency Panel for Assessment of the National Agricultural Library recommended that NAL receive a funding increase to at least \$100 million annually over a five-year period.² The National Agricultural Research Extension, Education, and Economics Advisory Board endorsed this idea a year later³ and again in February 2008, following a major five-year review.⁴ This discussion paper shows that considerably less funding would be required over the same period to make major progress toward restoring NAL's collections and services.

With this additional funding in hand, the Library would be better equipped to create and acquire even more digital content, to preserve the collection, to establish innovative services, to fortify the infrastructure and to plan NAL's future. With the Library thus strengthened, so too is USDA, which, in turn, strengthens agriculture, the environment and the Nation itself.

NAL's part in that chain cannot be filled by any other library or group of libraries. It needs to be funded and supported accordingly, like the national treasure and valuable resource that it is.

² Ibid., 35.

³ National Agricultural Research Extension, Education, and Economics Advisory Board, Detailed Recommendations to the 2001 Vanderhoef Interagency Report on the National Agricultural Library and 2002 Public Comments to The Report, December 2002.

⁴ National Agricultural Research Extension, Education, and Economics Advisory Board, Review and Recommendations for the National Agricultural Library, February 2008, http://www.ree.usda.gov/nareeeab/reports030708/NALreport0208.pdf (accessed March 17, 2008).





A Discussion Paper of the Staff of the National Agricultural Library April 2008