

**Testimony of Allan Adler
Vice President, Government and Legal Affairs
Association of American Publishers**

before the

**Subcommittee on Information Policy, Census, and National
Archives**

of the

House Committee on Oversight and Government Reform

concerning

“Public Access to Federally Funded Research”

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50 F Street, NW, 4th Floor
Washington, D.C. 20001
Telephone: (202) 347-3375
Fax: (202) 347-3690
www.publishers.org

Introduction

Chairman Clay, Ranking Member McHenry, Members of the Subcommittee, thank you for holding this hearing. My name is Allan Adler. I am the Vice President for Legal and Governmental Affairs for the Association of American Publishers, the principal trade association representing the American book publishing industry. Our members publish fiction and nonfiction books, educational materials for students of all ages and grades, and most importantly for today's hearing, a wide variety of professional, and scholarly journals. We represent over 50 commercial entities and non-profit organizations that publish scientific, technical and medical journals. I appreciate the opportunity to be here today to share our views on the important issue of public access to federally-funded research.

Unlike the many other challenges our country faces and problems policymakers must solve, there is no crisis in the world of scholarly publishing or in the dissemination of scientific materials. Taking the time to conduct a full, impartial, evidence-based assessment will help ensure that in trying to solve a problem that doesn't exist, unintended consequences do not lead to a crisis in the future.

Publishers strongly believe that American taxpayers are entitled to the research they've paid for. As taxpayers ourselves, collectively and individually, everyone in this room has paid for government-funded research, as well as the data and summary reports that result from this research. But taxpayers have not paid for the private sector, peer-reviewed journal articles reporting on that research.

For over a century, non-profit and commercial publishers have served as the government's partner in fueling scientific discovery and innovation. The presumption now that taxpayers should have free access to peer-reviewed journal articles seriously discounts the considerable contributions of our industry and highly-skilled workforce of some 50,000 who are driving the U.S. knowledge economy and supporting our leadership in science. Our \$10 billion industry is a critical part of the U.S. export economy and U.S. global competitiveness.

Sweeping government mandates like the Federal Research Public Access Act would undermine the country's most urgent effort—that is to grow employment while, at the same time, maintaining – indeed, enhancing – U.S. leadership in science. Government mandates requiring free access to private sector products will stifle innovation in what is now a rapidly changing

environment, both by decreasing the amount that publishers are able to invest and reducing their incentive to explore new approaches.

Here are some important numbers:

- 50,000: Number of employees in publishing
- 3 million: Average number of manuscripts submitted to publishers annually¹
- 1.5 million: Average number of journal articles published annually²
- 50-85: Percent an journal article's value that remains after one year of publication
- 90: Percent of publisher revenue attributed to subscriptions
- 44: Percent of librarians, according to a 2006 study, who would opt for free content over a paid subscription, with a twelve-month access delay, assuming only 40% of a journal's content would be available for free,
- \$100 million: U.S. publishers annual losses in China due to online piracy of journals, now including downloads from the NIH website
- 19: Percent growth in China's annual science budget, currently totaling over \$100 billion
- 1.3 billion: Number of Chinese citizens who can potentially access U.S. journal articles for free from the NIH website

Recognizing the complex array of issues and economic interests, your colleagues on the House Science Committee have developed a framework under the soon-to-be-passed America COMPETES Act reauthorization that will bring together every stakeholder in this room and the research community to discuss specific public access needs and respond appropriately.

Specifically, the COMPETES legislation distinguishes between digital data and scholarly publications and directs policymakers to take into account the role that scientific publishers play in the peer review process, including the investments and added value that they make. COMPETES also requires that the government assess the impact any proposed policies will have on the science, engineering, and the stakeholders, including any financial impact on research budgets. The COMPETES legislation seeks to fully consider policy needs, responses, and consequences.

The House Judiciary Committee has also examined this issue and has raised concerns about the copyright implications of government mandates requiring free access to these copyrighted works. By undermining copyright protections for private sector journal articles, the government diminishes incentives for publishers to continue to make substantial investments in the peer review, editing, and publishing of these important information products.

¹ Ulrich's Periodicals Directory, 16 March 2009, <http://www.ulrichsweb.com/ulrichsweb>

² Ulrich's Periodicals Directory, 16 March 2009, <http://www.ulrichsweb.com/ulrichsweb>

This is a complex issue that will have far-reaching implications on scientific communication, U.S. jobs, and the peer review system. Government mandates requiring free access to private sector journal articles will have serious unintended consequences for U.S. scholarly publishers, international competitiveness, and intellectual property protection.

The Role and Value Added Contributions of Publishers

The contributions of the publishing industry all too often get lost in debates focused on taxpayer access. Looking more closely at the investments and significant value-added contributions that publishers make highlights more clearly the distinction between federally-funded research and the private sector journal articles that report on that research. Peer-reviewed articles published in scholarly journals are not research, federally-funded or otherwise. They describe and explain the process, findings and significance of research. They require substantial amounts of the publisher's resources to ensure that their content is accurate, new, and important.

Non-profit and commercial journal publishers invest hundreds of millions of dollars every year in the peer review, editing, disseminating, and archiving of scholarly and scientific articles, as well as in creating unique journal brands and identities on which researchers and funders rely to make critically important personal and professional judgments. Journals typically support a specific discipline and serve as a central point of contact and information exchange for the members of that community, who are frequently spread around the world. The reputation of each journal, cultivated by its publisher, is also used as an indicator of the importance of the work in a particular field.

This is the critical infrastructure that has supported scholarly communication and spurred scientific and technological innovation for decades through numerous changes in media and publisher production and delivery mechanisms. Some 2,000 publishers produce over 25,000 peer-reviewed scientific, technical and medical journals, and recent statistics indicate that these journals alone publish more than 1.5 million articles annually.³ To facilitate this scholarly output, these journal publishers identify appropriate contributors and editors for each journal, ensuring that research results are reported and shared in a way that encourages further research. Most of the 2 to 3 million articles submitted each year do not pass publishers' quality standards on first reading. For example, *The Lancet*, the world's leading general medical journal and specialty journals in Oncology, Neurology and Infectious Diseases, rejects 95% of articles submitted for publication.

More importantly, substantially all submitted papers that are not rejected outright are returned to authors with requests for specific revisions. These requests are the result of refereeing, also known as peer review. The requested changes must be addressed and vetted by the journal's editor, and sometimes the revised manuscript is sent out for another round of refereeing. In practical terms, this means that publishers of these journals finance the collection and review of several times as many manuscripts as they will actually publish to effectively serve as quality guardians of the scientific record. The peer review process is an essential quality-control mechanism that helps to ensure the veracity of the published research and to facilitate their communication through enhanced readability. In a recent international survey of over 3000

³ Ulrich's Periodicals Directory, 16 March 2009, <http://www.ulrichsweb.com/ulrichsweb>

scientists, 83% agreed that, without peer review, there would be no control over the integrity of science research.⁴

Journal publishers have established sophisticated online manuscript submission systems to manage the processing of some 2 to 3 million manuscripts submitted annually by researchers around the world. Journal publishers also prepare the 1.5 million manuscripts that are accepted for publication by copyediting, proofing, formatting, branding, paginating, adding metadata and identifiers, checking and enhancing artwork quality, converting accepted manuscripts, data and artwork to XML, and adding links to ensure interoperability.

Journal publishers incur substantial expenses by supporting their editors in conducting peer review. These costs include (1) the highly skilled people required to manage the process, (2) purchasing, maintaining and updating the technology to streamline the process, (3) tracking reviewers and journal articles, (4) locating and maintaining relationships with possible reviewers, (5) sending journal articles out to appropriate reviewers and following up with them to make sure the reviews are completed, and (6) reviewing the responses and communicating those responses to authors.

These steps are typically managed with the help of specialized software systems that are internally developed, licensed commercially or supported by open source software. In addition to the software system, the necessary hardware must be acquired and maintained. Although software is very useful in organizing and managing the peer review process, live editors must evaluate the reviews and determine how to respond. Software cannot substitute for editorial skill and judgment. In addition to the peer review process, the journal publisher's determination to accept or reject a researcher's submitted manuscript, based on the publisher's own quality standards and expertise developed through years of building the brand reputation of the journal, is a hugely important part of the process for maintaining the integrity of the published record of scientific research.

Journal publishers continually invest in new journals to support the needs of scholarly communities and to ensure that intellectual communication keeps pace with new and expanding areas of science and scholarship. New journal titles grow at a rate of about 3% per year,⁵ consistent with increases both in the number of researchers and in funding for research and development.

In sum, publishers make significant capital investments and incur significant operating expenses in maintaining their journals. This investment is not paid for by taxpayer dollars. Government mandates requiring free access to private sector journal articles will diminish incentives for publishers to continue to make the significant investments necessary to ensure the publication of the highest quality scientific journal articles.

Impact on Jobs and Economic Growth

The U.S. science publishing market represents some \$10 billion in revenue. Over 1000 U.S.-based science journal publishers (including both commercial publishers and many society publishers) employ over 30,000 staff and indirectly support an additional 20,000 workers. North

⁴ <http://www.publishingresearch.net/documents/PRCsummary4Warefinal.pdf>

⁵ Ware, Mark and Michael Mabe, The STM Report: An Overview of Scientific and Scholarly Journals Publishing, September 2009, <http://www.stm-assoc.org/news.php?id=255&PHPSESSID=3c5575d0663c0e04a4600d7f04afe91f>

American-based science journal publishers account for 45% of all peer-reviewed research papers published annually for researchers worldwide.⁶

Ill-conceived policy initiatives that would undermine publisher copyright protection and thus investment incentive will harm U.S. economic imperatives—reducing unemployment, improving the competitiveness of U.S. companies, and spurring long-term economic growth. We should not allow the political expediencies of the short-term to jeopardize our ability to partner with government to create policies that foster growth. Now more than ever we need to work as business and government partners to preserve the economic leadership of the United States.

Government policies that mandate free online availability of private sector journal articles will have the same effect on the journal publishing industry as free online news and advertising content have had on the newspaper industry: bankruptcy, closure, and job cuts. If anyone can get these journal articles for free on a government website, why would they pay to subscribe to journals? The consequent declining subscription revenue threatens the viability of an industry that has helped stimulate American scientific and technological leadership for decades.

Subscriptions account for approximately 90% of journal publisher revenue.⁷ That revenue underwrites the critically important publishing functions discussed earlier. For non-profit societies, subscription revenues provide the means for symposia and member education, internships, research and other critical activities that advance science. The Publishing Research Consortium (PRC) recently commissioned a study of how decision-making factors such as price, embargo period, article version and reliability of access affect librarians' subscription or cancellation behavior. The survey suggests that a significant number of librarians are likely to cancel subscriptions even when just some of a journal's peer-reviewed manuscripts are available freely through open access.⁸

With a twelve-month access delay, assuming only 40% of a journal's content would be available for free, a large proportion (44%) of librarians in the study said they would opt for free content to portions of the journal over a paid subscription. When more than 40% of a journal's manuscripts are available freely on open access, the librarians' expressed an even greater preference for the free option over journal subscriptions. Librarians are unlikely to continue to subscribe to journals if some or all of the content was freely available on government websites. The study counters the proposition that scientific publishers—and the scientific endeavor itself—will not be harmed by an indiscriminate move towards free access that does not take into account such unintended consequences. Further, the results of this study strongly indicate that embargoes will not prevent harm.

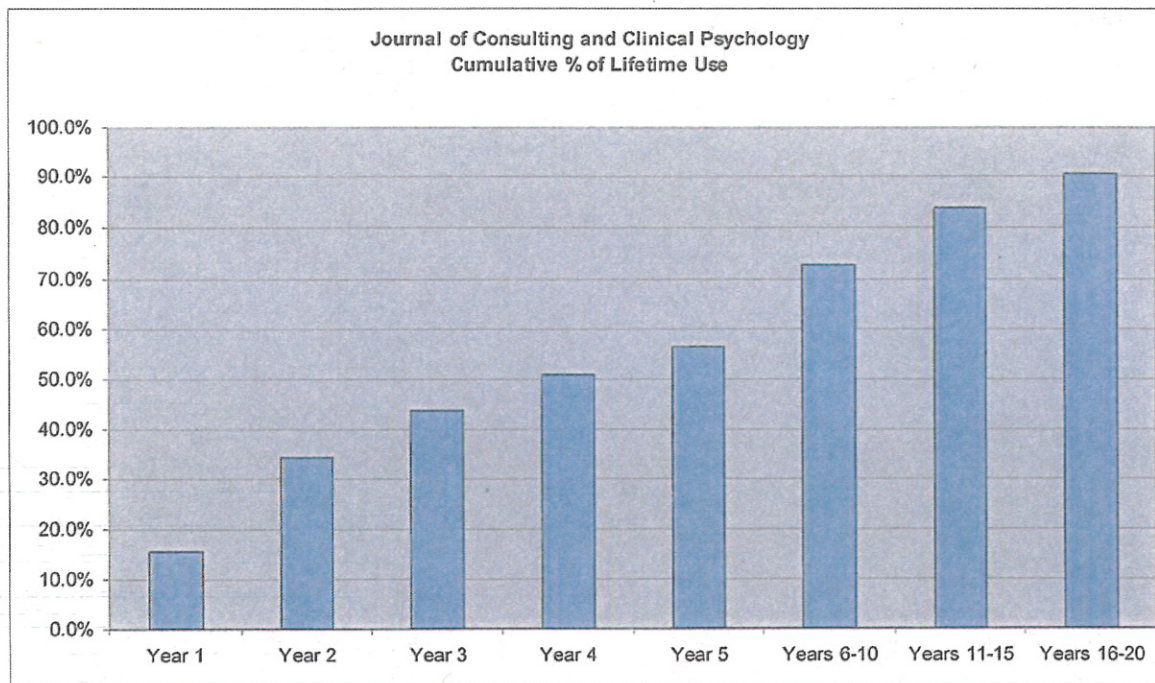
Research conducted by the American Psychological Association found that only 15% of the eventual "lifetime" usage of its journal articles – in the form of downloads – occurs within the first year after publication. The graph below demonstrates that articles published in the APA's 37 journals have a long half-life and lifetime usage of about 4.5 and 19.5 years, respectively.

⁶ Scholarly Publishing Practice Third Survey, ALPSP

⁷ Ware, Mark and Michael Mabe, The STM Report: An Overview of Scientific and Scholarly Journals Publishing, September 2009, <http://www.stm-assoc.org/news.php?id=255&PHPSESSID=3c5575d0663c0e04a4600d7f04afe91f>

⁸ Publishing Research Consortium Report "Self-Archiving and Journal Subscriptions: Co-existence or Competition" (July 2006). Accessible at http://www.publishingresearch.org.uk/documents/Self-archiving_report.pdf.

Because life-time utilization of APA journal articles occurs over a long period of time (much longer than the first 12 months), government mandates like the NIH public access policy will have a significant, negative impact on APA journals and all other journals with similar usage patterns.



The statistics I just discussed are important, given that subscriptions are critical to sustaining journal publishing and, in turn, journal publishing's essential role in ensuring the integrity, dissemination and preservation of the world's scientific, technical and medical information.

The application of government public access mandates like the Federal Research Public Access Act are indistinguishable from the imposition of an extraordinary and unprecedented exception to the most fundamental of rights under copyright—the exclusive right to distribute the copyrighted work – which, in turn, would diminish the incentive for publishers to continue to make substantial investments in managing the peer review process. Government mandates requiring free access to private sector journal articles will weaken an area of our economy where the United States has a comparative advantage.

Protecting Intellectual Property

Copyright protections have served as the catalyst for publisher investment in the infrastructure needed to sustain a rigorous pre-publication peer review process. Government mandates that make private sector journal articles freely available will undermine copyright protections for journal articles and will diminish incentives for publishers to continue to make the substantial investments in the peer review process.

Government mandates like those adopted by NIH would, effectively, reduce copyright protections to private sector journal articles to 12 months. As discussed above, only 15-50 percent a scholarly journal article's value is realized in the first year of publication. What that means is that a significant value of the journal article is lost by 12 month government mandates.

This type of government intrusion into the private sector poses a direct threat to our free market system. If the government is allowed to diminish copyright protections and expropriate private sector intellectual property, what is to stop this type of government policy from being expanded to other private sector products in other sectors of the economy?

More directly, government mandates that undermine copyright protection for journal articles send the wrong message to our trading partners about the importance of protecting intellectual property rights globally. Such policies are already making it more difficult for our government to advocate strong intellectual property protection and enforcement abroad.

Implications for U.S. Economic Leadership and International Competitiveness

We urged lawmakers to consider the international implications such mandates would have for U.S. intellectual property protection and competitiveness before the NIH Public Access Policy became—unfortunately—law. Mandatory free access represented an unnecessary and unjustifiable dilution of U.S. intellectual property rights protection that would make it increasingly difficult for our trade agencies to prevent intellectual property violations by our global trading partners. For many U.S. professional and scholarly publishers, over 50% of our revenues come from subscriptions delivered outside our borders. This would also threaten other IP industries that contribute significantly to U.S. exports, jobs and economic growth.

Our worst fears are coming true, with dangerous implications not only for U.S. jobs and exports but, critically, for our national security.

In China, domestic companies have been acquiring electronic copies of copyrighted U.S. scientific journal articles from government and university libraries and reselling them through online websites to legitimate producers' primary customers. U.S. publishers and scientific societies are facing annual losses of \$80-100 million as a result of this expanding theft. We have been working closely with U.S. trade agencies to address this egregious problem. However, in recent months, we have found evidence that companies in China are reselling and distributing, without authorization, journal articles downloaded from NIH's PubMed Central database – material produced by U.S. publishers at their own expense. The NIH policy is thus contributing to digital piracy.

In the Chinese blogosphere, there are also thousands of links to NIH PubMed Central, which is now routinely accessed by university students, hospitals and, of course, copyright infringers. Making peer reviewed journal articles freely available online will contribute directly to piracy of copyrighted U.S. biomedical journals and journal articles while also diminishing export opportunities in one of the fastest growing markets for U.S. companies.

In a speech earlier this month, President Obama noted that “Boosting America’s exports strengthens our economic growth and supports millions of good, high-paying American jobs. That’s why I set a goal during my State of the Union address to double our exports over the next five years. Since then, my Administration has worked to improve advocacy for our exporters, remove trade barriers, and enforce trade rules in an effort to ensure that the benefits of global trade are broadly shared.” Free-access government mandates directly undermine these critical priorities.

In terms of taxpayer access, some 1.3 billion people in China now have free access to U.S. journal articles via NIH. Longer-term, this has extremely worrisome implications for U.S. scientific leadership and national security. In its 11th Five Year Plan, the Chinese government outlined its plan to become a world leader in science and innovation. China has invested billions in improving its scientific standing. Almost every Chinese ministry has some sort of program to gain a technological edge in everything from missiles to medicine. The People's Liberation Army is supporting one of the pirate companies linking to NIH. U.S. Government mandates requiring free online access to peer-reviewed journal articles funds China's research instead of our own. The U.S. government's failure to protect our intellectual property has emboldened foreign competitors while hurting our economy, global competitiveness and job creation.

Balanced Solutions

We believe there are better approaches to ensuring public access to federally-funded research. It makes the most sense—and is most cost effective—for the government to take advantage of investments already being made by publishers and to work cooperatively in partnership with publishers.

Since the mid 1990s, the journal publishing industry has been a key player in the dramatic digital revolution in the sciences, investing heavily to drive the shift of published research from print-only to "e-only." According to a recent survey by the Association of Learned and Professional Society Publishers, 96% of science, technical and medical journals are available online.⁹ That number continues to grow.

The results of the end-to-end digitization of publishing systems are robust digital platforms with the latest Web 2.0 capabilities that can support the Federal Government's effort to link policymakers, researchers and the public. Rapid innovation in the journal publishing industry has dramatically improved functionality and efficiency for doctors and researchers, who can now perform complex searches of journals, immediately retrieve and print full text journal articles, link instantly to other cited journal articles, export text to other databases and programs, and receive e-mail alerts when new journal issues are released. Voluntary cross-publisher initiatives, such as CrossRef, developed with non-government funds, have broadened the impact of these benefits for researchers.

The result of these productivity benefits has been documented. The portion of their time scientific researchers spent analyzing (vs. gathering) information increased dramatically from 2001-2005. Compared to the print-only era, scientists now read 25% more journal articles per year from almost twice as many journals, and they do so using a smaller portion of their time.¹⁰ This dynamic yields major benefits in research and funding effectiveness.

To make it easier to locate and use research information, journal publishers continue to make substantial investments in:

- Creating and maintaining robust hardware and software infrastructures to distribute and archive science research literature, and updating those tools as the needs and expectations of authors and users of journal literature change over time.

⁹ Scholarly Publishing Practice Third Survey, ALPSP

¹⁰ Outsell's Buyer Market Database, Dr. Carol Tenopir (2008)

- Verifying references and creating, managing and maintaining online links, providing coding for digital dissemination, integrating machine-readable tags, supporting reference linking and indexing, and otherwise enriching the content, design and functionality of online publications.
- Encouraging and supporting the development of interoperable, industry-standard tools for citation and other purposes, such as “persistent identifiers” (that is, the journal articles’ unique identifiers for researchers to ensure that they are using and citing the authoritative version of the journal article).
- Creating visibility of research results through arrangements with third-party vendors that push relevant research information to the appropriate research communities through a combination of traditional tools and emerging technologies, such as abstracting and indexing services, citation databases, table-of-contents alerting services, podcasts, RSS feeds, press communications and sponsorship of scientific and technical conferences, seminars and symposia.

Over the last decade, there has been a dramatic increase in access levels for both researchers and the public. Researchers now have extremely widespread access to journals: a recent study showed that 94% of university and college-based respondents found access to information to be easy, and access to journals is very low on their list of concerns—13th out of 16th (lack of funding is number one; too much paperwork is number 5 on their list).¹¹ Researchers have access to significantly more content than they did in the print-only era: researchers now read from 25% more journals than in the mid-1990s and university faculty are reading 34% more journal articles.¹²

Public access has also expanded dramatically due to initiatives that publishers have led to broaden access for researchers in developing countries, patients, the public and disabled persons.

For example:

- In 2006, publishers created patientINFORM, an online service developed in cooperation with publishers and patient groups. PatientINFORM, provides patients and their caregivers access at no cost to some of the most up-to-date, reliable research about the diagnosis and treatment of specific diseases. PatientINFORM also helps interpret the research and provides access to additional materials.
- Since the 1990s, publishers have been working with the United Nations to provide developing countries with free or low cost access to important life sciences information. Sponsored by the World Health Organization, Health InterNetwork Access to Research Initiative (HINARI). (www.who.int/hinari/about/en/) provides free or very low-cost online access to the major journals in biomedical and related social sciences to not-for-profit institutions in developing countries. HINARI includes over 2000 journals from 70 publishers.
- Research4Life consists of three public-private partnerships that make health, agricultural and environmental research from over 7000 journals available to institutions in the developing world. Many publishers have programs for providing access to patients. They also have “walk-in” clauses in their licenses that enable libraries to give any

¹¹ Access by UK Small and Medium-Sized Enterprises to Professional and Academic Information, Mark Ware Consulting Ltd for Publishers Research Consortium (April 2009)

¹² Scholarly Publishing Practice Third Survey, ALPSP

member of the public free electronic on-site access to journal articles. Access for visually impaired persons (VIP) has also been increased as publishers have voluntarily implemented the distribution of new formats for those with disabilities. It makes no sense for the government to enter the publishing business by wasting valuable tax funds to duplicate what publishers are doing, particularly when no study has ever been done on what access gaps such government policies are meant to address.

We believe that initiatives like those discussed above are good models that government and publishers can work from to enhance public access to federally-funded research without undermining the scientific enterprise.

Publishers support approaches suggested by the House Science Committee to increase public access to the results of federally-funded research, consistent with the America COMPETES Act of 2007. The COMPETES Act established a public access policy for research funded by the National Science Foundation (NSF). Under the NSF model, such federal agencies would provide in a timely manner on their websites: (a) final project reports; (b) citations of published research documents resulting from research funded by the agency; and (c) readily accessible summaries of the outcomes of agency-funded research projects. Publishers are ready to explore public-private partnership opportunities based on such a model.

Government, through its funding agencies, supports the research enterprise that generates outputs such as experimental data, technical reports, grant reports, and conference papers. Consequently, government has an important role to play in ensuring that research data and technical reports are accessible to the public whose taxes funded their production.

But any development of federal public access policy in this area must be based on thorough assessment of the needs of all stakeholders. For example, the government could consider a pilot program similar to the EU's PEER (Publishing and the Ecology of European Research) initiative. PEER represents a three-year collaboration (2008 to 2011) between publishers, repositories and researchers that will investigate the effects of the large-scale, systematic depositing of authors' final peer-reviewed manuscripts on reader access, author visibility, and journal viability, as well as on the broader ecology of European research. Empirical results from this program will inform the EU's future policymaking on public access issues.

Conclusion

We urge members of Congress to view implementation of the NIH Public Access Policy as a case study in how not to proceed. The effort to solve a problem that didn't exist is threatening job creation, economic growth and scientific innovation in our country.

Journal publishers play a vital role in the advancement of science by managing the peer review process that helps ensure the quality and integrity of scientific research. Government mandates that undermine copyright protection for private sector journal articles will diminish American scientific leadership. We look forward to working with members of this Subcommittee to develop policies that will help increase U.S. jobs and exports in our dynamic industry.