



Phycological Society Of America

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The Office of Science and Technology Policy

To Whom It May Concern:

The Phycological Society of America (PSA) appreciates the opportunity to respond to OSTP's Task Force request for information from scientific societies regarding access to digital data from federally-funded research, as described in the Federal Register solicitation of 4 November 2011 per Section 103 (b)(6) of the America COMPETES Reauthorization Act of 2010 (ACRA). "Phycology" refers to the study of algae. The PSA is a non-profit scientific society that is incorporated in the State of Maryland and was founded in 1946 to advance research and education in all aspects of algal science. Our membership of about 1000 scientists and graduate students do research in universities, industry, state and federal government, and NGOs; about two-thirds of our members work/study in the US. Our members study a remarkable range of important topics, from key aspects of global carbon cycles to important health issues.

The PSA's *Journal of Phycology* is entering its 48th year (2012) of publication of basic and applied research on algae. PSA owns copyright to current and full back issues of the print and electronic journal (6 issues/year), and PSA controls all editorial decisions and content of our journal, which has been published since 1999 in association with Wiley-Blackwell Publishers, the publisher of the journals of about 283 other US scientific societies. We have found our association with Wiley-Blackwell (W-B) to be particularly valuable in terms of early establishment of the electronic version of the *Journal of Phycology* (begun in 1999). As with many other journals, extensive sets of digital data and detailed methodological information are now made available with the published article as electronic supplements. This particular response concerns the request by the OSTP task force for comment on how to increase "preservation and dissemination of broadly useful digital data resulting from federally funded research".

Question 1: What specific Federal policies would encourage public access to and the preservation of broadly valuable digital data resulting from federal funded scientific research, to grow the US economy and improve the productivity of the American scientific enterprise?

The Digital Object Identifier (DOI) system that was developed by the publishing industry through the not-for-profit CrossRef system now holds over 50 million DOIs of articles that increase interoperability and accessibility. We are aware from our publishing partner Wiley-Blackwell that discussions have begun about the possibility of assigning separate DOIs to supplementary electronic material, including digital data. This would appear to us to be useful in encouraging public access and preservation of these digital data in published articles, especially because the DOIs could be linked to the sponsoring grants on agency websites, if desired.

PSA has experienced some loss of supplementary videos from the earliest years of electronic publication of the *Journal*, as software operating systems of publishers were changed and upgraded. The development of DOIs for digital data seems likely to be helpful in assuring successful transfer of data in future digital innovations in publication. The federal government might establish a working group with publishers' representatives to address the general, long-term preservation issue for electronic data (Paper is archival; is any electronic publication really permanent?), and ensure that the federal government is sponsoring basic research that will lead to permanent archive mechanisms.

We note that sets of data from federally funded research are likely to be most useful after they have been peer-reviewed along with the article submitted for publication that is based on their analysis; peer review results in a value-added product that is copyrighted. In our case, expert reviewers and editors in our field donate their time to peer review; this results in modest profit that is devoted entirely to support for graduate student research, tuition to summer field courses dealing with algae, etc. (i.e., building US human capital in science); support for annual meetings of the Society (travel expenses of symposium speakers); public outreach to K-16 educators; and periodic, special supplements or innovations at the *Journal*.

Agencies might develop common formats for certain sets of digital data (e.g., Long-term Ecological Research [LTER] sites) that could make it possible for raw data (lacking peer review) to be valuable when archived by a federal agency, and such data could be required of the investigator by project's end. The NSF, for example, now requires data management plans as part of grant applications. Even in cases, however, such as GenBank at the National Center for Biotechnology Information (NIH), where archive of similar digital data prior to---or without---publication is possible, lack of peer review ultimately makes large collections of such data less valuable.

Question 2: What specific steps can be taken to protect the intellectual property interests of publishers, scientists, Federal agencies, and other stakeholders, with respect to any existing or proposed policies for encouraging public access to and preservation of digital data resulting from federally funded research?

The most important step with respect to the intellectual property rights of society publishers of science is to recognize that an expert community of scientists in the area of the digital data will provide strong peer review that adds value to the digital data. The peer review has cost, which leads to the article and accepted digital data being protected by copyright, which must be protected by the government.

Question 9: What mechanisms could be developed to assure that those who produced the data are given appropriate attribution and credit when secondary results are reported?

This requires standard professionalism and honesty of the secondary user. DOI tags will help the secondary user report the source(s) of their analyses, and the peer review system is the best safeguard against uncredited use of other investigators' data.

Question 13: What policies, practices, and standards are needed to support linking between publications and associated data?

Cooperation between scientific publishers to establish DOI tags for associated data would immediately make this linkage possible.

These responses were reviewed by the PSA's Executive Committee. We would be happy to respond to further questions.

Sincerely yours,

A handwritten signature in black ink that reads "Susan H. Brawley". The signature is written in a cursive style with a long, sweeping tail on the letter "y".

Susan H. Brawley
President