



2012 Report to Members

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Preface

It has been a milestone year for Dryad. In July, we incorporated as a nonprofit membership-based organization dedicated to preserving and sharing the scientific and medical data underlying scholarly publications. The membership elected a founding Board of Directors, ratified Bylaws and applied for tax-exempt status (determination pending). Laura Wendell was recruited to serve as Executive Director starting in 2013. After years of consultation with stakeholders, the Board announced the details of Dryad's sustainability plan in early 2013. The plan includes income from membership dues, submission fees, grants and donations, which will ensure that the newly formed Dryad nonprofit organization will be prepared to marshal the resources to support and govern the Dryad Data Repository in coming years. An overview of two components of the plan, membership and submission fees, are included here as Appendices. In addition, the National Evolutionary Synthesis Center received a grant from the US National Science Foundation that will continue to fund research and development for Dryad through 2016.

Members

Dryad is currently supported by a diverse array of organizations that share a common interest in open data publishing. Members have a voice in the governance of Dryad through nominating and electing the Board of Directors. We are deeply grateful for their support and involvement:

American Association for the Advancement of Science *

American Genetic Association *

American Society of Naturalists *

Biological Journal of the Linnean Society (Linnean Society of London *)

BioMed Central *

British Ecological Society *

BMJ Open*

Ecology Letters (Centre National de la Recherche Scientifique)*

Ecological Society of America *

Elementa: Science of the Anthropocene

European Society for Evolutionary Biology *

Evolutionary Applications *

Genetics Society *

Journal of Paleontology and Paleobiology (The Paleontological Society *)

Molecular Biology and Evolution (Society for Molecular Biology and Evolution *)

Molecular Ecology *

Molecular Ecology Resources *

Molecular Phylogenetics and Evolution *

Oikos (Nordic Society Oikos *)

Oxford University Press *

Pensoft Publishers *

PLOS *

Society for the Study of Evolution*

Society for Systematic Biologists *

US Fish and Wildlife Service *

Wiley-Blackwell *

*Charter Members

Contributed content in 2012

Numbers and sizes of data packages and files

	2012	Cumulative
Data packages	1,251	2,247
Data files	3,817	6,082
Volume of content	62.7 GB	81.9 GB

Submission rate continues to approximately double each year. By the beginning of 2013, Dryad was routinely releasing forty to sixty new data packages per week, which extrapolates to over 2,500 data packages anticipated for 2013. Data packages have 12% more files and are 37.5% larger in volume than the cumulative average.

Top journals by number of data packages in 2012

There were 132 journals with content in Dryad by December 2012.

Journal	Data packages
Molecular Ecology	276
Evolution	165
Journal of Evolutionary Biology	127
The American Naturalist	92
Heredity	69

File embargoes

Authors who wish to embargo their data may do so provided that their journal allows this option. Embargoes of up to one year are granted automatically, while longer embargoes require editor approval.

Embargo Type	2012
All files	3,817
One year embargo	232 (6.1%)
Longer than one year	1 (<0.1%)

ReadMe files

In 2012, 27% of the data files in Dryad included ReadMe files providing additional information for users to interpret the data. This is almost identical to the percentage for all data files in the repository, 28%. This is an underestimate of files with documentation as in some cases individual ReadMe files describe multiple data files.

File types (cumulative)

Type (classified based on file extension)	
Plain Text	5,945
Microsoft Excel 97-2007 (XLS)	1,146
Comma-separated values (CSV)	952
Adobe Portable Document Format (PDF)	744
Zip archive	718
Microsoft Excel OpenXML	685
Unknown data format	662
FASTA sequence file	641
Nexus	579
Microsoft Word 97-2007	303
GZip archive	176
Microsoft Word OpenXML	157
JPEG Image	156
Extensible Markup Language (XML)	141
Rich Text Format (RTF)	124
R script	114
Newick tree file	114
Phylogeny Inference Package (Phylip)	70
Tag Image File Format (TIFF)	41
Hypertext Markup Language (HTML)	36
Wave Audio Format	36
Bzip2 archive	34
Roshal ARchive (RAR)	34
Perl program	27
MP3 audio	25
UNIX Tar File Gzipped (TGZ)	24
Tape Archive File (TAR)	19
FASTA QUAL File	18
Mathematica Notebook	16
Postscript	16
Microsoft Excel Binary XML	16
Python program	8
MPEG-4 video	8
Audio Video Interleave (AVI)	5
Portable Network Graphics (PNG)	5
Moving Picture Experts Group (MPEG)	4
Microsoft Powerpoint 97-2007	2
Quicktime Video	2
Web Ontology Language (OWL)	2
Item-specific license agreed upon to submission	2
Keyhole Markup Language (KML)	1

Data usage

Views and downloads

Data package views for 2012 = 116,471

Data file downloads for 2012 = 27,755

Most popular data packages by max data file downloads (2012)

DOI 10.5061/dryad.x	Title	Journal	Down-loads	Date Released
m2271pf1	Genome-wide association genetics of an adaptive trait in lodgepole pine	Molecular Ecology	2036	Jan-12
j512f21p	Compliance with mandatory reporting of clinical trial results on ClinicalTrials.gov: cross sectional study	BMJ	918	Jan-12
f3b66	A phylogenetic analysis of trait convergence in the spring flora	Botany	827	Oct-12
95ct6q2c	The imprint of Cenozoic migrations and evolutionary history on the biogeographic gradient of body size in New World mammals	The American Naturalist	768	Apr-12
96c20	A survey of palaeontological sampling biases in fishes based on the phanerozoic record of Great Britain	Palaeogeography, Palaeoclimatology, Palaeoecology	656	Aug-12
75nv22qj	More than 1000 ultraconserved elements provide evidence that turtles are the sister group of archosaurs	Biology Letters	535	May-12

Repository development

Stakeholders are encouraged to contribute and vote on ideas for improving the repository at our Ideas Forum (<http://datadryad.org/feedback>). You can follow our development process via a Trello board (<https://trello.com/datadryad>). Dryad is built upon the open source DSpace software (<http://www.dspace.org>). Additional customizations are available from <https://github.com/datadryad/dryad-repo> under an open source license. The move of both DSpace and Dryad to a GitHub repository has streamlined our release cycle, and allows us to more easily accept contributions from external developers. Those interested in contributing to or using the software are welcome to join the developer mailing list at <http://groups.google.com/group/dryad-dev>.

Notable new features (2012-13)

- A major website redesign, with many new pages explaining Dryad's services, and efficient access to the most-sought information.
- The ability to pull up the bibliographic information of previously published articles at the time of data submission using an article DOI or PubMed ID.
- A variety of mechanisms for enhanced linkage between article and data, including links from Genbank and PubMed to Dryad data, a widget API that allows publishers to provide links from their web pages to associated content in Dryad (being used on the Elsevier ScienceDirect platform), and indexing in Thomson-Reuters Data Citation Index.
- Backup of content in CLOCKSS.
- Launch of Dryad as a Member Node in DataONE.

Upcoming features (2013-14)

- Implementation of the cost recovery system
- Improvements to the large file submission process
- ORCID integration
- A data submission API
- Enhancements to the curation interface
- Enhanced reporting tools, including pages customized for partner journals
- Improved handling of submissions from rejected manuscripts
- Improvements to the versioning system

Status of top Suggestions from the Ideas Forum

1. Ask for the ORCID IDs of authors when they upload datasets - planned for 2013
2. Upload of data before article is accepted - under consideration by Board
3. Display DOIs with dx.doi.org prefix - planned for 2013
4. Show ImpactStory statistics on the Dryad website - under consideration
5. Import my existing Dryad datasets into my ORCID profile - now available

Web traffic

Website visits by month



Website visits by country for 2012

United States	35,002
United Kingdom	7,075
Germany	5,042
Canada	4,703
France	2,689
Australia	2,283
Spain	2,168
China	2,130
Brazil	1,450
Japan	1,294
Switzerland	1,188
India	1,041

Website visits by language (2012)

English	62,864
French	2,612
Spanish	3,118
German	3,004
Chinese	2,128
Portuguese	1,029

Website visits, by source (2012)

Source / Medium	
1. google / organic	37,176
2. (direct) / (none)	23,367
3. t.co / referral	1177
4. movebank.org / referral	930
5. blog.datadryad.org / referral	882
6. wiki.datadryad.org / referral	737
7. royalsocietypublishing.org / referral	670
8. onlinelibrary.wiley.com / referral	662
9. jstor.org / referral	610
10.plosone.org / referral	500
11.dx.doi.org / referral	425
12.en.wikipedia.org / referral	400
13.nescent.org / referral	372
14.pnas.org / referral	350
15.twitterfeed / twitter	312
16.facebook.com / referral	262

Social media and outreach

Blog

17 posts resulted in 8,244 visits in 2012 (daily average: 23)

By country

United States	4,756
United Kingdom	1,276
Canada	535
Germany	342
India	284
Australia	238
France	206
Netherlands	187
Spain	145
Japan	95

Twitter

2,389 followers as of 1-May-2013

Conference presence (2012)

- Society for Integrative and Comparative Biology, Charleston USA, January
- Academic Publishing in Europe, Berlin, Germany, January
- American Association for the Advancement of Science, Vancouver, Canada, February
- ICSTI Delivering Data in Science, Paris, France, March
- ASIS&T Research Data Access and Preservation, New Orleans USA, March
- DCC Research Data Management Forum, Southampton UK, March
- European Library Automation Group, Palma de Mallorca, Spain, May
- Animal Behavior Society and Human Behavior and Evolution, Albuquerque USA June
- Society for Molecular Biology and Evolution, Dublin, Ireland, June
- Evolution 2012, Ottawa, Canada July;
- American Genetic Association, Durham USA, July
- Open Repositories, Edinburgh, Scotland, July
- Ecological Society of America, Portland USA, August
- [Wolfram Data Summit](#), Washington DC USA, September
- Society of Vertebrate Paleontology, Raleigh USA, October

Submission Integration

Submission Integration is a free service that allows journal publishers to coordinate the submission of manuscripts with submission of data to Dryad. Benefits:

- Simplify the process of data submission for authors.
- Allow authors to deposit, to a single repository, gigabytes of data files in their original formats.
- Reduce the rate of noncompliance with journal data policy.
- Have the option of making data available for editorial or peer review, via secure access for editors and reviewers.
- Ensure bidirectional links between the article and the data and increased visibility for both.
- Ensure that the data is accessible once the article becomes available online.
- Give authors the option to embargo public access to data for a limited time after publication, if permitted by the journal's data policy.

Submission Integration is offered to any organization that publishes a scientific journal irrespective of whether the organization is signed up for a payment plan or is a member of Dryad. The submission integration process works with many different online manuscript processing systems, is lightweight and customizable to each journal's needs.

Integrated Journals can select a number of options, including:

- when to allow authors to submit their data; either during the review period for the article or when the article is accepted.
- whether to allow authors to embargo data for one year.
- whether metadata for a data package is hidden until publication
-

Of the twenty journals for which data may be submitted prior to peer review, eight are actively encouraging authors to submit at that stage and twelve at acceptance. In 2012, 570 data packages were submitted to Dryad prior to peer review.

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Integrated journals (through May 2013)

Journal	When to submit? R: Prior to Review A: Upon Acceptance	Data embargo allowed?	Metadata hidden until publication?
American Naturalist, The	A	Y	N
Biological Journal of the Linnean Society	A	Y	N
Biology Letters	R	Y	Y
BioRisk	R	Y	N
BMJ Open	R	N	N
Comparative Cytogenetics	R	Y	N
Ecological Monographs	A	Y	Y
eLife	R	Y	Y
Evolution	A	Y	N
Evolutionary Applications	A	Y	Y
Functional Ecology	R	Y	Y
GMS German Medical Science	R	Y	N
Heredity	R	Y	N
International Journal of Myriapodology	R	Y	N
Journal of Animal Ecology	A	Y	Y
Journal of Ecology	A	Y	Y
Journal of Evolutionary Biology	A	Y	N
Journal of Fish and Wildlife Management	A	N	N
Journal of Heredity	A	Y	N
Journal of Open Public Health Data	R	Y	N
Journal of Paleontology	A	Y	N
Methods in Ecology and Evolution	A	Y	Y
Molecular Ecology	R	Y	N
Molecular Ecology Resources	R	Y	N
MycoKeys	R	Y	Y
Nature Conservation	R	Y	N
NeoBiota	R	Y	N
Paleobiology	A	Y	N
PhytoKeys	R	Y	Y
PLOS Biology	R	N	Y
PLOS Genetics	R	N	Y
Systematic Biology	R	N	N
ZooKeys	R	Y	Y

By the end of 2012, the 31 integrated journals accounted for 73.5% of all new data packages.

Appendix 1. Membership information and dues

Dryad is a nonprofit membership organization. Membership is open to any stakeholder organization, including but not limited to journals, scientific societies, publishers, research institutions, libraries, and funding organizations.

Members have a say in the governance of the organization through nomination and election of its Board of Directors and voting on amendments to its Bylaws at the Annual Meeting; receive discounts on submission fees; participate in an active knowledge sharing network; and help advance the mission of the organization through their financial support.

The Annual Meeting in May gives members the opportunity to stay informed about new innovations in the scholarly communication of research data and to help direct the future of the organization. For application and membership policy, see <http://datadryad.org>.

Gross income	Dues if below	Dues if above
10 million US Dollars	\$1,000	\$5,000
7.8 million Euros	€780	€3900
6.6 million GB Pounds	£660	£3300
10 million Canadian Dollars	CAD \$1,000	CAD \$5,000
950 billion Japanese Yen	¥95,000	¥475,000
9.6 million Australian Dollars	AUD \$960	AUD \$4,800

Appendix 2: Pricing plans and submission fees

Dryad will begin charging submission fees on the 1st of September 2013.

Dryad is a **nonprofit** organization that provides **long-term access** to its contents at **no cost** to researchers, educators or students, irrespective of nationality or institutional affiliation. Dryad is able to provide free access to data due to financial support from members and data submitters. Dryad's submission fees are designed to sustain its core functions by recovering the basic costs of curating and preserving data. New innovations are enabled by research and development grants and by support from donors.

Organizations (including publishers, scientific societies, libraries, funders, and others) are encouraged to cover the costs of submission fees on behalf of their community of researchers. For instance, a society or publisher may cover the costs for all the authors of its journals. To do this, Dryad offers a variety of flexible payment plans that provide for volume discounts. If no payment plan is in place, authors must pay a fee at the time of submission, with the exception of researchers from economically developing countries, who may submit data at no charge. Please contact director@datadryad.org to discuss which payment plan would be most suitable for your organization.

Plan 1: Voucher Plan

Organizations are invited to purchase a block of vouchers for future submissions at a base fee of USD\$65 per data package for members and USD\$70 for non-members. The minimum purchase is 25 vouchers.

Plan 2: Deferred Payment

Under the Deferred Payment Plan, fees are invoiced for the number of data packages submitted in the previous quarter. The base fee is USD\$70 per data package for members and USD\$75 for non-members. Participants must enter into a contract of at least one-year duration and may cap the number of submissions for which they are charged.

Plan 3: Subscription

A journal (or journals) with an active Subscription Plan may make an unlimited number of submissions for a fixed fee. The fee is calculated based on the total number of research articles published by the journal(s) in the prior year, with a base fee of USD\$25 per research article for members and USD\$30 for non-members. The minimum contract duration is two years, which can start at any time. Submission Integration is required for subscribing journals.

For individuals: Pay on submission

If none of the above payment plans is applicable to a given submission, a base fee

of USD\$80 is charged, payable by the submitter at the time of submission. **Waivers** are granted upon request for submissions originating from researchers based in countries classified by the World Bank as low-income or lower-middle-income economies.

Payment Plan	Member	Non-member	Minimum purchase
1. Voucher Plan	USD\$65 per data package	USD\$70 per data package	25 vouchers
2. Deferred Payment Plan	USD\$70 per data package	USD\$75 per data package	1 yr contract
3. Subscription Plan	annual fee based on USD\$25 per published research article	annual fee based on USD\$30 per published research article	2 yr contract
For individuals: Pay on submission	NA	USD\$80 per data package, payable by the submitter	1 data package

While base submission fees cover the entire cost of most submissions, two additional fees may apply.

Excess data storage fee

For data packages in excess of the 10 GB size limit, USD\$15 will be charged for the first GB and USD\$10 for each additional GB or part thereof, payable by the submitter.

Non-integrated submission fee

For data from journals without integrated submission, a fee of USD\$10 will be charged to individual submitters payable at the time of submission, to cover added curation costs.