

INTERIM REPORT OF THE AOS PUBLICATIONS FUTURE COMMITTEE

4 February 2020

AOS Publications Futures Committee: Steve Beissinger (Chair), Catherine Lindell, Irby Lovette, Nicole Michel, Kristin Ruegg, Scott Sillett, and Phil Stouffer. *Ex Officio members:* Sarah Andrus (Oxford University Press), Mark Penrose (AOS), and Melinda Pruett Jones (AOS).

EXECUTIVE SUMMARY

This report is to inform leaders and members of the American Ornithological Society (AOS) about options for the society's publication program to respond to the revolutionary changes underway in scientific publishing. The Committee was tasked in Sept. 2019 with developing strategies to maintain *Auk* and *Condor* as preeminent journals in ornithology. Doing so requires AOS to: (1) adapt the journals to recent changes in the publishing industry, such as the growth of Open Access and Open Science, and (2) find ways to attract the best papers by increasing the journals' impact factors. *Among the solutions to the latter is the possibility of changing the journal names to reduce the current confusion caused by their unofficial names, and to make the names more descriptive of their content.* The Committee was also tasked with developing a strategy for publishing long content materials – *Studies in Avian Biology (SAB)* and monographs.

The report begins with an overview of trends in scientific publishing and the performance of the AOS journals. Scientific publishing success increasingly relies upon metrics of prestige and impact, including Impact Factor, Altmetrics, and publication speed. Compared to our ornithological competitors, AOS journals have the top Impact Factors in 2018 (*Condor* = 2.80 and *Auk* = 2.66) and have comparable publication speeds, but lag behind in Altmetrics. Rapid changes in Open Science policies and peer-review processes are also underway. AOS journal responses to these changes are consistent with industry trends and those of competitor journals.

The report then presents three overarching goals to achieve publication sustainability:

(1) *Increase the quality and prestige of AOS publications.* The success of AOS journals rests on their prestige to attract and publish high-quality science, which is linked with journal Impact Factors and Altmetrics.

(2) *Maintain a net positive business model.* Publishing journals, books and monographs should be financially self-supporting. This expectation contrasts sharply with the financial losses for publishing *Auk*, *Condor* and *SAB* that AOS and its predecessor societies experienced. Since partnering with Oxford University Press in 2019 to publish our journals, their finances are on solid financial footing for the first time in decades. Now the most pressing issue facing the financial sustainability of AOS journals derives from the uncertainties related to different Open Access models. *SAB*, however, remains a financial deficit.

(3) *Encourage students and early-career professionals to publish in AOS journals.* AOS has a strong mission to support the next generation of ornithology researchers and professionals in the field, and publishing high-quality ornithological science should be part of that process.

Next, the report identifies five objectives to achieve these goals with recommendations for each.

Objective 1. Increase the Impact Factor of AOS Journals by attracting high-citation article types, expanding the geographic scope of authorship, developing a system for transferring manuscripts rejected from higher impact journals, and potentially changing the journal names.

The official journal names are *Auk* and *Condor*, not *The Auk* and *The Condor* or *The Auk: Ornithological Advances* and *The Condor: Ornithological Applications*, which is how the names appear online and in their own literature cited sections. Rebranding to more descriptive names would address the inconsistent usage of their names, attract higher quality papers, increase journal impact factors, and better convey the content of the journals to those inside and outside of ornithology. The current names are an impediment to colleagues, particularly early-career professionals, competing for jobs or facing tenure and promotion review.

Renaming also has short-term costs, but these can be overcome with thoughtful and frequent communications. *Auk* and *Condor* are well-established brands within the ornithological community, but this impact might be lessened if the names on the other side of the colon were retained (*Ornithological Advances* and *Ornithological Applications*). A name change would result in the loss of continuity, but the volume numbers would continue onwards in the series of each journal, partially mitigating this effect. There is the two-year time lag for receiving Impact Factors for the new journal names. Nevertheless, informal impact factors could be produced and marketed using social media and communications.

The Committee believes the advantages of rebranding the journals to represent their content exceed the costs associated with a name change. For *Auk*, the Committee recommends the name *Ornithology*. It was preferred to *Ornithological Advances* as a simpler alternative that helps to distinguish the title from *Ornithological Applications*. For *Condor*, the Committee recommends retaining *Ornithological Applications*. This portion of the informal name, along with the refocus to applied research, corresponds with a dramatic increase in the journal's Impact Factor. *Ornithological Applications* aptly describes the material that appears in the journal, whereas all publications about birds advance knowledge so *Ornithological Advances* lacks similar focus.

The Committee feels feedback from AOS members on renaming the journals is needed before making a final recommendation to AOS Council and has created a questionnaire to obtain it.

Objective 2. Change the model for publishing long content material by publishing Special Features in AOS journals to produce content lost as AOS phases out its *SAB* contract with CRC Press, which had a net loss in excess of \$10,000 annually, and by exploring a new book publishing relationship with Oxford University Press.

Objective 3. Prepare for Open Access publishing by investigating why society members are unwilling to pay OA fees to AOS journals and identifying potential solutions.

Objective 4. Expand support for students and early-career professionals to publish in AOS journals through expanding the mentored peer review process, recruiting manuscript submissions from student award winners, and establishing new awards for best student papers.

Objective 5. Expand content usage and audiences via traditional venues and modern communication strategies by increasing the number of institutional subscribers, increasing AOS membership throughout the Americas and internationally, and expanding our use of social media to communicate with a larger audience of AOS members and the public.

In conclusion, AOS's journals continue to be the flagship outlets, producing exciting and innovative discoveries from an impressive range of ornithology. They are on an upward trajectory in terms of submissions, author satisfaction, citation impact factors, and financial sustainability. The recommendations contained in this report are designed to help ensure their continued success.

I. Motivation for Producing the AOS Publications Futures Report

The mission of the American Ornithological Society (AOS) is to advance the scientific understanding of birds, to enrich ornithology as a profession, and to promote a rigorous scientific basis for the conservation of birds. AOS's vision is to produce scientific publications of the highest quality and make them available to the widest audience possible, host intellectually engaging and professionally vital meetings, support students and early-career professionals to become the next generation of ornithologists, pursue a global perspective, and inform public policy on issues important to birds. Publishing high quality basic and applied science on birds is a key component of that mission.

Scientific publishing is undergoing rapid growth and revolutionary change in how the products are delivered. Scientific output in terms of the number of published articles has grown exponentially since 1980 (Bornmann and Mutz 2015), appearing to double every nine years over the past 50 years (Van Noorden 2014). Concomitant with this growth has been an explosion of the number of journals, with English-language journals now estimated to exceed 33,100 and collectively publishing 3 million articles a year (Johnson et al. 2018). Journals now find themselves competing to attract the best papers by marketing their impact factors, social media metrics, accessibility, and speed of publication to scientists. With the advent of online publishing, accepted articles can be transmitted rapidly without waiting for completion of a journal issue and can be made accessible to all. Similarly, scientists are shopping around to find the best journal in which to publish their research, determining which outlets will allow their work to compete well for audience attention and citations, and bring distinction to their career.

In January 2019 AOS began a partnership with Oxford University Press (OUP) to publish our journals, *Auk* and *Condor*. OUP is a department of the University of Oxford, with a mission to further excellence in research, scholarship, and education by publishing worldwide. With origins dating to 1478, OUP is the world's largest university press with the widest global presence. Its publishing program spans the entire academic spectrum, including scholarly and general interest books, journals, and online products.

In June 2019, the AOS Council approved the formation of the Publications Futures Committee to plan for and shepherd *Auk* and *Condor* through the massive changes underway in scientific publishing. The Committee was appointed in September and tasked with two objectives to develop strategies to maintain *Auk* and *Condor* as preeminent journals in ornithology, and to position them to compete for the best scientific papers about wild birds. *Doing so requires AOS to: (1) adapt the journals to recent changes in the publishing industry, such as the growth of Open Access and Open Science, and (2) find ways to attract the best papers by increasing the journals' impact factors. Among the proposed solutions to the latter objective is the possibility of changing the journal names to reduce the current confusion caused by their unofficial names, and to make the names more descriptive of their content and attractive to potential authors.* In addition, the Committee was tasked with developing a strategy for publishing long content materials (books and monographs), including the urgent need to resolve the mounting issues of our partnership with TaylorFrancis/CRC Press to publish the *Studies in Avian Biology* series.

This report consists of three additional sections that are meant to be read in sequence, although each section stands on its own. It begins with an overview of the trends in scientific publishing and the performance of the AOS journals. The report then transitions to present three overarching goals that are critical to achieve sustainability of AOS publications: (1) increase the quality and prestige of AOS Publications; (2) maintain a net positive business model; and (3) encourage students and early-career professionals to publish in AOS journals. The report continues with five objectives to achieve those goals. They include recommendations for increasing the Impact Factor of AOS journals including the possibility of changing the journal names, changing the model for publishing long content materials, preparing the AOS journals to succeed in an Open Access and Open Science landscape, actions to support students and early-career professionals to publish in AOS Journals, and expanding content usage and audiences.

II. Trends in Publishing and the Current Performance of AOS Journals.

Here we present key trends taking place in scientific publishing, how the AOS journals are performing, and the practices they are currently employing. Four factors typically affect where authors choose to submit their manuscripts based on a journal's quality – prestige, familiarity, speed of the publication process, and acceptance probability (Oster 1980, Wong et al. 2017).

II.A. New Developments in Article and Journal Metrics

In the world of scholarly research and publishing, there is a great interest in the measurement of *impact*, or the degree to which research published in a journal influences research in that field. Impact is instrumental in how authors decide where to submit their papers, how readers decide which journals to pay special attention to, and how librarians decide to allocate their subscription budgets. Understandably, researchers are highly focused on maximizing the impact of their research outputs as it has real implications for their career advancement. Two fundamental questions remain, however: (1) What is the definition of “impact” and the best way to measure it?; and (2) What are the key metrics that make some journals more attractive than others for authors who want their research to make as much impact as possible?

Impact Factor. A journal's Impact Factor (IF) remains by far the primary metric by which its impact, and the articles it publishes, are assessed, despite nearly universal agreement that the metric is imperfect at best and deeply misleading at worst. It is fair to say that the IF represents a *proxy* for research quality and impact at the level of the journal, in the absence of any quantitative method of measuring those things directly. In any case, it is a metric that is watched very carefully by researchers, publishers, and consumers of research, and holds tremendous influence over where authors publish and how their research outputs are recognized.

A product of Clarivate Analytics, the Web of Science is the reigning indexing service for scholarly journals across all disciplines, and it is within this environment that each journal's IF is calculated and released each summer. The IF is essentially a measure of total citations to all of the articles published in the journal in a given year, counting only citations to articles published in the preceding two years divided by the total number of items published during that period.

As of 2018 (the most recent data available), AOS journals have the 1st and 2nd highest IF for 2018 and the 1st and 3rd highest 5-year IFs in the Web of Science Ornithology category, in close competition with *Journal of Avian Biology*, *Avian Conservation & Ecology*, and *Ibis* (Table 1). As seen in Table 1, within Ornithology these competitors are really the ones to watch, as the IFs of other related journals fall off quite rapidly after this.

The 2019 IFs will be released in June or July 2020.

Table 1. Ornithology journals ranked by 5-year [Journal Impact Factor](#) (2014 - 2018).

Title	Society or Publisher	Impact Factor	
		5-year	2018
<i>Auk</i>	American Ornithological Society	2.50	2.66
<i>Avian Conservation & Ecology</i>	Society of Canadian Ornithologists	2.24	2.14
<i>Condor</i>	American Ornithological Society	2.22	2.80
<i>Journal of Avian Biology</i>	Scandinavian Ornithologists' Union	2.20	2.23
<i>Ibis</i>	British Ornithologists' Union	1.95	1.99
<i>Journal of Ornithology</i>	German Ornithologists' Society	1.62	1.47
<i>Journal of Field Ornithology</i>	Association of Field Ornithologists	1.59	1.85
<i>Bird Conservation International</i>	Birdlife International	1.54	1.73
<i>Acta Ornithologica</i>	Polish Academy of Sciences	1.27	1.00
<i>Emu</i>	BirdLife Australia	1.22	1.35
<i>Avian Research</i>	China Ornithological Society	1.19	0.82
<i>Ardeola</i>	Spanish Ornithological Society	1.19	1.97
<i>Journal of Raptor Research</i>	Raptor Research Foundation	1.14	1.17
<i>Ornis Fennica</i>	BirdLife Finland	1.08	0.83
<i>Ardea</i>	Netherlands Ornithologists' Union	1.05	1.13
<i>Bird Study</i>	British Trust for Ornithology	1.04	1.01
<i>Avian Biology Research</i>	Sage Publishing	1.04	0.85
<i>Ostrich</i>	BirdLife South Africa	0.79	0.44
<i>Waterbirds</i>	Waterbird Society	0.77	0.65
<i>Wilson Journal of Ornithology</i>	Wilson Ornithological Society	0.70	0.63
<i>Ornithological Science</i>	Ornithological Society of Japan	0.63	0.57
<i>Revista Brasileira de Ornitologia</i>	Brazilian Ornithological Society	0.55	0.30
<i>Ornitologia Neotropical</i>	Neotropical Ornithological Society	0.52	0.24
<i>Forktail</i>	Oriental Bird Club, UK	0.34	0.14

Altmetrics. As an alternative to the Impact Factor (though not a replacement, according to most), [Altmetrics](#) is gaining popularity as a means of measuring the attention an article receives, both within the research community and by the general public. The key distinction is that attention does not necessarily equal impact, since neutral or negative attention is also counted in the Altmetric score. In any case, Altmetrics is a measure of attention outside the research community

that a paper receives and in combination with Impact Factor (a measure of the journal's contribution to academic scholarship) offers a more holistic perspective on research at both the journal and article level.

Altmetrics complement traditional, citation-based measures. They can include (but are not limited to) peer reviews on Faculty of 1000, citations on Wikipedia and in public policy documents, discussions on research blogs, mainstream media coverage, bookmarks on reference managers like Mendeley, and mentions on social networks such as Twitter.

Sourced entirely from the Web, Altmetrics indicate how often journal articles and other scholarly outputs, like datasets, are discussed and used around the world. For that reason, Altmetrics have been incorporated into researchers' websites, institutional repositories, journal websites, and elsewhere.

The Altmetric Attention Score for a research output provides an indicator of the amount of attention it has received. The score is derived from an automated algorithm, and represents a weighted count that reflects the relative audience reach of each type of source. For example, a mention in the news is weighted more heavily than a Twitter mention.

AOS journals are trailing our two closest competitors in Altmetric attention scores (Table 2).

Table 2. Average Altmetric scores for the AOS journals and closest competitors from all available data since tracking began in 2011.

Journal	Average Altmetric Score per Article
<i>Ibis</i>	9.25
<i>Journal of Avian Biology</i>	9.31
<i>Auk</i>	6.97
<i>Condor</i>	5.65

Publication speed. For both journals, the turnaround time from submission to first decision is within normal range, but the current turnaround from acceptance to publication is longer than most authors would expect. The typical target range for OUP journals, comparable to other publishers, is 4-6 weeks from acceptance to publication. AOS and OUP are in the process of addressing a backlog of articles that is adding to delays in publication of newly accepted papers. This is a matter of priority as many authors consider publication speed to be highly important when considering where to submit a manuscript.

Table 3. Speed of publication for manuscripts submitted to AOS journals in 2019.

Journal	Mean time from submission to first decision	Mean time from acceptance to publication
<i>Auk</i>	30 days	103 days
<i>Condor</i>	42 days	99 days

II.B. Open Science Initiatives

The landscape of Open Science or Open Research, which includes non-STEM scholarly disciplines, is large, complex, and evolving at a rapid pace. Open Science is the movement to make all aspects of science (or research) more accessible and transparent, including data, methods, software, peer review, manuscripts, and educational resources. While some areas of Open Science are more mature than others (e.g., Open Access), and different disciplines adopt these principles at varying rates, it is all but certain that the direction of global research and publishing is toward greater accessibility, transparency, and reproducibility. In the life sciences and ecology in particular, the rationale for openness is largely rooted in widespread support among researchers and society for a system in which critical environmental research can be circulated, communicated, and built upon without hindrance.

For the AOS journals, the appeal of Open Science is that it facilitates more rapid discovery relating to birds and their environments through sharing of data sets, computer code, and papers in progress. Open Science also helps to connect the ornithological research community to the public and to environmental policy makers. This is particularly important for *Condor*, which publishes studies providing valuable conservation and management recommendations that are relevant to resource managers in governmental agencies and non-governmental conservation organizations, many of which have limited resources and limited access to journals.

Open Access. Open Access (OA) is a publication model in which papers are made publicly and freely available via a Creative Commons license, with costs being paid up-front by authors through Article Processing Charges (APC). In many ways, OA is the most “mature” component of the Open Science landscape. OA has been a major discussion in scholarly publishing for decades, with the publication of new OA journals and articles accelerating each year. Like most of Open Science, the adoption of OA varies greatly by discipline; there is a wide gulf between, for example, biomedical fields and humanities fields when it comes to the prominence of OA publishing outlets (Wijewickrema and Petras 2017), a discrepancy which is largely tied to funding availability. The adoption of OA also varies among journals within each field. Fully open access (Gold OA) journals make all content freely available to consumers, while partial open access (Green OA) journals (e.g., the AOS journals) publish a mix of OA and non-OA papers. AOS’s editors also select papers in each issue that are made freely available immediately, through what is known as Free Access, which provides reading rights to all but the publisher retains the copyright, while OA authors are able to retain through [Creative Commons](#) licenses.

While the broad field of ecology has been relatively active in adopting OA, specialized disciplines like ornithology are seeing low uptake of OA, as many authors simply do not have the funds from grants or their institutions to cover the APCs, which are usually in the thousands of dollars. This may be changing, albeit gradually, as more institutions sign on to “read and publish” deals in which some proportion of a library’s budget that would normally go to journal subscriptions is instead allocated to cover APCs for that institution’s researchers. As interest in Open Access publishing and the proportion of Open Access-only journals increases, researchers may also include higher amounts for publishing costs in their grant budgets when possible. Meanwhile, there is a backlog of research already underway or already completed for which Article Processing Charges were not budgeted.

Open Data. As the idea of unrestricted global access to research articles gains popularity, so too does the push for transparency – not just for the papers themselves but also for the data sets on which the findings are based. To support the increasingly urgent imperative that scientific research should be not only rigorous but reproducible, many funders and other stakeholders are either encouraging or requiring authors upon publication of an article to make their data and/or code freely available in a public repository like Dryad or Figshare. There has been moderate pushback against these requirements in some fields. For example, authors may wish to use their data for further publications and are wary of being “scooped”. In clinical medicine there are genuine concerns about patient data being adequately anonymized. In emerging fields like Artificial Intelligence, there is fear of valuable intellectual property being co-opted by potentially nefarious players. For the most part, however, researchers and publishers recognize the broad value of Open Data as a means of keeping supplementary information, which would otherwise be lost or hoarded away, in the public record to be built upon by new generations of researchers.

AOS has been quicker than most societies in similar disciplines to recognize the importance of data sharing and to enact a sweeping policy for all *Auk* and *Condor* authors. In early 2019 the AOS journals completed an integration with [Dryad](#), and announced that, as a condition of publication, all authors would be required to upload their data sets there or in a comparable repository. Exceptions can be made in cases where the author can demonstrate that immediate release of data may have harmful consequences, such as revealing locations of endangered species. The reception so far has been mostly positive, and it is integral to the AOS mission to support Open Science initiatives that remove barriers to the seamless continuation of vital research in avian science. Among ornithology journals, *Journal of Avian Biology* has implemented a mandatory data sharing policy, while *Ibis* only requires registration of DNA sequences. Starting in 2020 OUP is asking all of its partner societies to officially adopt a data policy that encourages authors to make use of data repositories. AOS is ahead of this trend and is well-positioned to lead by example when journals in ornithology and adjacent fields are looking for models to follow.

Preprints. A preprint is essentially an author’s draft of a manuscript. In the past, the terms ‘preprint’ and ‘postprint’ have been used to differentiate between (1) the submitted, un-peer-reviewed version (also called the author’s original version), and (2) the accepted, post-peer-review version. More recently, ‘preprint’ has been used to denote any of the versions of a paper prior to publication in a journal.

In some disciplines, such as physics and mathematics, preprints have long formed an important part of the publication process. In life sciences and medicine, the use of preprints as part of the publication process has seen rapid growth in recent years. The dominant preprint server for the life sciences is [bioRxiv](#), which now receives over 2500 uploaded preprint papers per month. It presents an opportunity for authors to receive community feedback on their research in advance of submission to a journal. Journal editors can also browse the server to identify interesting working papers and invite the authors to submit to their journals for consideration.

It is AOS’s policy, as with most society publishers including the publishers of *Ibis* and *Journal of Avian Biology*, that a preprint manuscript is not considered a “prior publication” and therefore

can be considered for publication in any journal as long as it is not already being reviewed by another journal. Furthermore, most journals allow authors to cite preprints in addition to published articles. A number of OUP journals have formally integrated with bioRxiv in order to allow preprint authors to easily submit working papers to the participating journals; this workflow would be available for the AOS journals at \$1,000 per journal/year if there is interest.

II.C. Evolving Peer Review Models

Like research impact and article metrics, peer review is as old as research culture itself. Yet, many of the assumptions around how peer review should be implemented are now being challenged. The notion that peer review is essential to validating an article's integrity remains uncontroversial, but new models are emerging that aim to make the process more efficient, fair, and transparent. The blind review model encourages reviewers to be as candid as possible in their critiques without worry of upsetting authors whom they may know personally, including those who may have influence on their career path. Unfortunately, it can also encourage reviewers, hiding behind the shield of anonymity, to produce unfair criticisms and transmit their remarks in offensive ways.

Single-blind peer review. Peer review in ecology and ornithology has, until recently, largely been conducted using a single-blind peer review process. In the single-blind model, author names are shared with reviewers, but reviewer names are not shared with the authors, unless reviewers choose to sign their reviews. By revealing author names, reviewers can easily identify and avoid any potential conflicts of interest. However, recent studies have found robust evidence that, under the single-blind model, reviews may be influenced by personal as well as societal biases (e.g., gender, career stage, and prominence).

Double-blind peer review. As of 2019, the AOS journals have implemented a double-blind peer review model, wherein the identity of the author is hidden to the reviewer and vice versa. The rationale for journals to use the double-blind model is partially to check any potential bias that reviewers may have toward authors within close-knit and sometimes competitive disciplinary communities. Among ornithology journals, *Ibis*, *Avian Conservation and Ecology*, and *Journal of Avian Biology* also follow the double-blind model. AOS journals are currently monitoring the efficacy of this new model compared to single-blind reviews.

Transferable peer review. As anyone who has submitted a paper to multiple journals before having it accepted is well aware, the process of having a manuscript reviewed and re-reviewed – with the comments from the first journal's reviewers unavailable to subsequent reviewers – is time-consuming and frustrating. Furthermore, as reviewers are already stretched for time to devote to thoughtful consideration of articles and delivering constructive feedback, it is not difficult to imagine that countless hours of reviewers' time are essentially wasted via duplication of efforts when the same article is considered by more than one journal, starting the process completely over each time it is submitted to another journal. The idea behind *transferable peer review* is to save time for both authors and reviewers by allowing a journal that does not accept a paper – for reasons of scope or other factors – to directly transfer the manuscript and associated reviews to another journal. This is accompanied by revisions made by the authors in response to the reviews. This type of transfer requires the written permission of the journal editors, authors,

and reviewers. When implemented, it has the potential to greatly reduce the time required for a good paper to get accepted and published in the right journal.

AOS journals started piloting a transferable peer review process in 2019. Reviewers are now asked in Editorial Manager, the online system used by *Auk* and *Condor*, to check a box either granting or refusing permission to share reviews (anonymously as a default) with other journals, should the manuscript be rejected. We have transferred reviews of several rejected papers to other journals and expect to formalize this process in 2020.

Open or transparent peer review. Part of the trend toward Open Science initiatives is an increased interest in the possibility of fully transparent peer review. Advocates of open and transparent peer review argue that – when an article is published, or even when it isn’t – the community has the right to view on a public forum all of the comments and feedback that led to the article being improved, accepted, or rejected. Under some open peer review implementations, the identities of reviewers are revealed as well, which promotes civility in the review process. Some publishers and researchers feel strongly that the reviews themselves are inseparable from the article, and that offering a view into the evaluation process is just as important as the finished product.

Transparent peer review is currently far less mainstream than the models discussed above. Many authors and reviewers are understandably hesitant to make public the editorial discussions that have always been kept private by the journal and editors. Some organizations are launching pilots to experiment with open peer review before officially adopting it. One example is Transparent Review in Preprints (TRiP)’s collaboration with the preprint server bioRxiv, whereby manuscripts in progress that are posted on the server can receive formal or informal reviews from fellow researchers, which are openly available to be viewed and commented on by anyone.

AOS has not adopted transparent peer review, but is interested in the views of the membership on whether further consideration would be merited.

III. Key Goals for Securing the Sustainability of AOS Publications

The powerful brand of the AOS is intrinsically tied with the success of our overall publications program. Below we present three goals that are key for sustaining the publishing endeavors of AOS. These goals are interrelated and have guided the Committee’s deliberations and approaches toward positioning AOS publications for the future.

Goal 1: Increase the Quality and Prestige of AOS Publications

The success of the AOS publications program traditionally rests on the prestige of our journals as the top-ranked peer-reviewed journals in Ornithology. This success derives from our ability to attract and publish high-quality science with broad relevance across the many subfields of ornithological scholarship.

Prestige and quality are linked with journal Impact Factors and recent metrics of impact like Altmetrics. The Impact Factors of both *Auk* and *Condor* have consistently risen over recent years and maintaining this upward trajectory is essential. To achieve this outcome will require development, careful implementation, and follow-up evaluation of strategies to attract papers that become widely cited. We must also monitor and evaluate our journals' branding and perceived position relative to the other journals in our field.

Given the current positioning and strength of AOS journals, an appropriate strategic goal is to continue this impact factor improvement to widen the gap between the rankings of our journals and the next-highest-ranked ornithological publications, and to compete with higher-ranked non-ornithology journals in basic and applied science for strong studies on wild birds. This outcome would cement our journals' position as the preeminent outlets in which to publish on avian biology.

AOS also has an opportunity to pursue new and innovative approaches for publishing longer content materials, including monograph-length articles in our online journals and a new book series to promote emerging topics and syntheses of ornithological science that would be of broad interest to other disciplines and policy-makers. Success in these endeavors would deepen and strengthen our position as a scholarly publisher, and advance the Society's overall mission.

Goal 2: Maintain a Net Positive Business Model for the Publications Program

Publishing journals and long content (i.e., books and monographs) should be financially self-supporting. Journal publishing has been a money making venture for many scientific societies, both large and small, which use the profits to support their core programs. This situation contrasts sharply with the financial losses for publishing journals, books and monographs that AOS' predecessor societies experienced.

Over most of the last half century, our predecessor societies (AOU and COS) published their journals, monograph series, and book series in partnership with various academic and commercial publishers. The economics of their publishing programs favored the publishing partner and, in general, the publication programs operated at a net loss. The goals of the cooperative self-publishing program between the two societies from 2013-2018 were to gain greater editorial control to strengthen the journals and to achieve financial sustainability. AOU leaders recognized early on that *Ornithological Monographs* was unsustainable as a stand-alone publication and discontinued it in 2015. It was anticipated that the *SAB* book series would publish longer content material in edited volumes, but it became a costly endeavor, operating at a financial loss of at least \$10,000 annually. *Condor* and *Auk* also operated at a significant financial loss of ~\$100,000 annually, even though they succeeded in achieving all other goals.

Following the merger and the growing impact of the journals, AOS sought a new publishing arrangement, received offers from six interested publishers, and chose to partner with OUP. We structured the partnership to ensure net revenue for both parties over the 5-year term of the contract. This positive partnership has resulted in greater success of the journals and a net surplus for AOS to reinvest in its programs. Income to AOS from the journals is derived primarily from a percentage of the funds received from institutional (i.e., library) and bundled (aggregated by a

third party, such as BioOne) subscriptions handled by OUP. Other income sources include JSTOR fees, non-member author page charges (AOS members publish for free), optional OA fees, and other contractual obligations, which include a signing bonus, honoraria to editors, and a guaranteed minimum royalty if income does not meet projections.

As Discussed below in **Objective 2**, AOS recently terminated its contract with its commercial publishing partner for the *SAB* series, and will explore financially sustainable options for publishing long content that would be more accessible to our members and broader audiences.

Thus, for the first time in decades, the AOS publications are on solid financial footing and the current financial prognosis is strong.

The most pressing issue facing the financial sustainability of AOS journals now derives from the uncertainties related to different Open Access models. There is a real possibility that Open Access pressures will suddenly increase in the near-term future owing to factors outside the control of the AOS or OUP. The global scientific publishing landscape has been trending toward Open Access (OA) for two decades, and this shift is accelerating each year. Moreover, it is possible that major governmental and private funders of research will soon require the research they support to be published in OA outlets, which could create an immediate imperative to produce more OA content in our journals. In the US, this could potentially happen rapidly in response to a proposed executive order from the President. In Europe, this process is tied to the fate of [Plan S](#), an initiative for OA publishing that was launched in September 2018. Adopting Plan S would require scientific publications that result from publicly funded research to be published as OA from 2021 onwards.

If a move to a predominantly or a fully OA publication model for AOS journals is mandated in the US, this would significantly erode the traditional sources of core journal revenue from subscriptions and would necessitate the creation of very different economic models in collaboration with our partner OUP. The entire scientific publishing industry is monitoring this potential disruption very closely.

Adapting to the OA landscape is critically important for AOS journal sustainability and is discussed below in **Objective 3**. The Publications Futures Committee and OUP are working together to generate a set of economic analyses based on a range of potential revenue and OA scenarios in order to remain nimble throughout this period of change in the overall publication landscape. Economic scenarios forecasted for the journals will be fully shared with the AOS Council and updated as new information becomes available.

Goal 3: Support Students and Early-Career Professionals to Publish in AOS Journals

AOS has a strong mission to support the next generation of ornithology researchers and professionals in the field, and publishing high-quality ornithological science should be part of that process. Publishing in *Auk* or *Condor*, as a student or early professional, promotes bonding with AOS and loyalty to AOS journals. Not only is a publication in an AOS journal a frequent path on to the road to building a career in ornithology, but some of the most exciting, cutting-edge avian science originates from theses, dissertations, and other research products of students and early professionals.

IV. Key Objectives to Achieve AOS Publication Goals

Below we present and discuss five objectives with specific recommendations to achieve the goals for securing the sustainability of AOS publications.

Objective 1: Increase the Impact Factor of AOS Journals

A journal's Impact Factor and its prestige go hand-in-hand, and are the most important factors affecting the selection of an Open Access journal for submission of manuscripts in the sciences (Wijewickrema and Petras, 2017).

Our goal is to have a Journal Impact Factor >3 for AOS journals by 2025. Both journals have exhibited sustained increases in their Impact Factor from 2014 – 2018 (*Auk*: 1.86 to 2.66; *Condor*: 1.00 to 2.80), ranking #1 and #2 in 2018, and #1 and #3 in 5-year Impact Factor among ornithology journals (Table 1). Increasing their Impact Factors will enable AOS journals to compete with non-ornithology journals in basic and applied science (Table 4) for better papers.

Table 4. Comparison of 5-year and 2018 Impact Factors for 20 non-ornithology competitor journals in basic and applied science. Comparable JIFs for *Auk* = 2.50 and 2.66; *Condor* = 2.22 and 2.80.

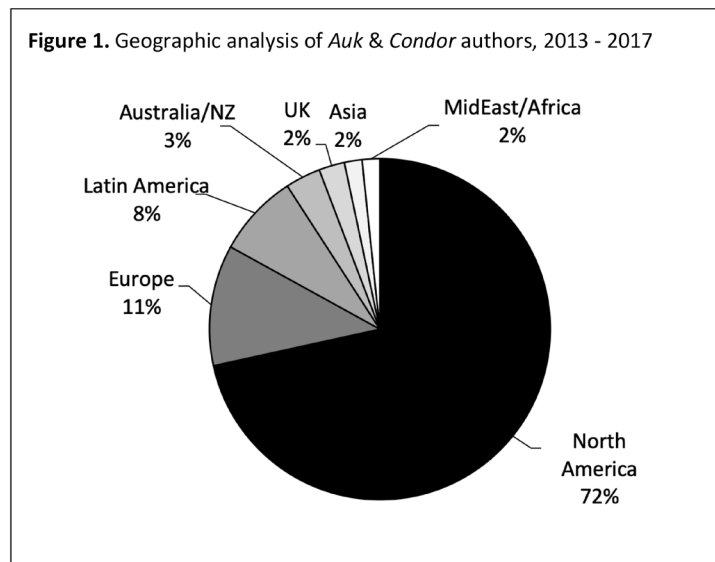
Title	Impact Factor	
	5-year	2018
Basic Science		
<i>Animal Behaviour</i>	3.10	2.68
<i>Behavioral Ecology</i>	3.23	2.70
<i>Biotropica</i>	2.72	2.99
<i>BMC Ecology</i>	2.92	2.38
<i>BMC Genetics</i>	2.78	2.55
<i>Frontiers in Ecology and Evolution</i>	.	2.69
<i>Frontiers in Zoology</i>	3.76	2.98
<i>General and Comparative Endocrinology</i>	2.66	2.45
<i>Journal of Evolutionary Biology</i>	2.75	2.54
<i>Journal of Experimental Biology</i>	3.33	3.02
<i>Oecologia</i>	3.32	2.92
<i>Physiology and Behavior</i>	2.85	2.64
<i>Zoological Journal of the Linnean Society</i>	2.99	2.91
Applied Science		
<i>Animal Conservation</i>	3.27	3.05
<i>Biodiversity and Conservation</i>	3.30	3.14
<i>Biological Invasions</i>	2.91	2.90
<i>Environmental Conservation</i>	3.09	2.76
<i>Oryx</i>	2.83	2.80
<i>Restoration Ecology</i>	2.89	2.83
<i>Systematics & Biodiversity</i>	2.46	2.36

We have identified four actions to meet our goal of an Impact Factor >3 by 2025.

Recommendation 1.1. Increase the publication of highly cited article types. Review articles are cited more often than standard Research Articles (mean citations per article, *Auk*: 8.5 vs. 4.7; *Condor*: 13.6 vs. 5.4). We are actively encouraging submission of synthetic reviews. One effort is through the new [Wesley Lanyon Award](#), which was established to solicit synthesis and review papers from early-career professionals and is discussed in detail later in this report. In addition, we are seeking Perspective articles – short papers that address timely topics and recent advances in ornithology. See [Funk & Taylor 2019](#) and [Nolet et al. 2020](#) for recent examples. We are also eager to publish thematic Special Features, sets of Research Articles based on conference symposia or topics of broad interest to ornithologists. This includes content that would have been published in the *Studies in Avian Biology*, a book series that will likely be phased out as discussed later in **Objective 2**. We expect Perspectives and Special Features to be well-cited. Next Step: Work with Oxford University Press to conduct citation analyses of Reviews, Perspectives, and Special Features.

Recommendation 1.2. Attract high impact papers from emerging geographic regions and subject areas. Most of the world’s bird species reside in regions from which we publish few articles, a pattern reflected in a

geographic analysis of our authors (Fig. 1). For example, only 8% of *Auk* and *Condor* authors in 2013 – 2017 were from Latin America. To provide fuller coverage of research about Earth’s birds, and to support ornithologists in other parts of the world, we will identify emerging topics relevant to underrepresented geographic areas to target for recruitment of Research Articles, Reviews, Perspectives, and Special Features. AOS journals will publish a Special Feature on Neotropical Ornithology in 2020. Next Step: Conduct citation analyses of author and article geography.



Recommendation 1.3. Develop and implement a system for transferring manuscripts rejected from higher impact journals to AOS journals. Our journals could attract outstanding papers in ornithology that have been rejected from higher impact journals (e.g., *Ecology Letters*, *Evolution*, and *Conservation Biology*) by developing an expedited review process for their reconsideration.

This is similar to how “cascade journals” operate, where authors are given the option to transfer manuscripts that have been rejected from other journals, along with reviews, to a lower impact journal owned by the same publisher or society. Cascade journals are a recent but widespread feature of the larger journals and publishing outlets. However, cascade journals like *Ecology and*

Evolution and *PLoS One* have high page charges, and they publish a vast amount of papers that might go unnoticed by authors' target audience. AOS journals have no page charges for Society members, target an engaged audience, and are supported by a focused communications team.

AOS publishes two journals with somewhat different themes, so they cannot cascade manuscripts to each other. We could seek partnerships with societies to which AOS members belong, like the Ecological Society of America, Society for Conservation Biology, and Society for the Study of Evolution. However, these societies and their publishers have their own cascade journals.

Our best strategy may be to engage AOS members directly and encourage them to send high quality papers rejected by *Ecology*, *Evolution*, *Conservation Biology*, etc. to AOS journals. This grassroots strategy seems more likely to succeed initially than formal partnerships. The AOS publication office and OUP will need to develop an efficient process for a seamless transfer of the previous reviews. For example, our journals could feature a web page with a form for authors to enter details of their paper and the journal that rejected it. The system would then automatically generate an email to that journal's editor and provide a straightforward way for said editor to transfer the reviews to the AOS editorial office, ensuring a secure chain of custody.

Table 5. Comparison of 5-year and 2018 Journal Impact Factors for six cascade journals that publish ornithological research. JIFs for *Auk* = 2.50 and 2.66; *Condor* = 2.22 and 2.80.

Title	Society or Publisher	Impact Factor	
		5-year	2018
<i>Ecology and Evolution</i>	Wiley	2.86	2.42
<i>Ecosphere</i>	Ecological Society of America	3.22	2.75
<i>Global Ecology and Conservation</i>	Elsevier	2.96	2.75
<i>PLoS One</i>	Public Library of Science	3.09	2.78
<i>Royal Society Open Science</i>	Royal Society	2.96	2.52

We believe that AOS journals and Oxford University Press have the prestige, impact factor, and other desirable characteristics to compete successfully for the best papers that now appear in cascade journals (Table 5). This would increase the likelihood of our journals getting high-quality content and save time for authors, reviewers, and editors.

Recommendation 1.4. Strongly consider changing the names of the AOS journals. There is surprising confusion within the ornithological community over the exact names of the two AOS journals. Moreover, the names do not reflect the content of what is published in the journals to those outside of the ornithological community. Both situations are detrimental to building journal prestige and could be rectified by formally changing the names of the journals.

Currently the names of the two AOS journals are confusing to many in the ornithological community. The portion of the names of each journal that appear on the masthead after the colon (*Auk: Ornithological Advances* and *Condor: Ornithological Applications*) are not registered with Clarivate Analytics, the Web of Science Group that produces journal citations and impact reports. Thus, the official journal names are *Auk* and *Condor*, not *The Auk* and *The Condor*

which is how the journal names appear online, or *The Auk: Ornithological Advances* and *The Condor: Ornithological Applications* which is how the names appear in their own literature cited sections. This situation surprised us and most members of the AOS Council when it was brought to their attention in June 2019 at the Anchorage AOS meeting.

The names *Auk* and *Condor* do not reflect the content of what is published in those journals to those outside of ornithology, and do not intuitively reflect the missions of either the journals or AOS. For decades, some AOS members of the AOU and COS have advocated for journal name changes from the perspective that our journal names are archaic, colloquial, and an impediment to colleagues, particularly early-career professionals, competing for jobs or facing tenure and promotion review. Other members have emphasized the rationale for maintaining the traditional journal names. See [Remsen et al. 1998](#) and [Woolfenden et al. 1998](#) for two perspectives on this argument.

In a December 2012 report to the AOU and COS Councils, a joint task force suggested differentiating the subject matter of *Auk* and *Condor*, and changing their names. The impetus behind this change in subject matter was to differentiate the content of *Auk* and *Condor* between basic and applied ornithology, respectively. It coincided with a move by the two societies to create a joint publication office to produce their journals, when their previous publisher, the University of California Press, discontinued their publishing partnership with the two societies.

The portions of the journal names after the colon were added in the first issues of 2014 (volume 131 of *Auk* and 116 of *Condor*). This change has coincided with a substantial and sustained increase in Impact Factors for both journals. A rationale for the name change to *Auk: Ornithological Advances* and *Condor: Ornithological Applications* was that, after an appropriate period of time, the names of the journals would be changed again by dropping *Auk* and *Condor*, leaving, *Ornithological Advances* and *Ornithological Applications*.

The AOS Publications Futures Committee has identified clear, strategic objectives and advantages for renaming the journals. Rebranding the journals would address the inconsistent usage of the journal names. Rebranding to more descriptive journal names would attract higher quality papers and increase journal impact factors. This was certainly the case when *Ornis Scandinavica* became *Journal of Avian Biology* in 1993 and quickly rose from a mid-tier ornithology journal to one of the most highly cited ornithological journals (Nilsson et al. 2014). Rebranding to names that were more descriptive would better convey the content of the journals to those inside and outside of ornithology. Finally, rebranding to names that are more descriptive could more strongly connect the journals to AOS.

Renaming also has costs, at least in the short term. *Auk* and *Condor* are well-established brands within the ornithological community that could be lost by changing journal names, although this impact might be lessened if the names on the other side of the colon were retained (*Ornithological Advances* and *Ornithological Applications*) as originally planned. A name change would result in the loss of continuity for the journals. However, the volume numbers after a name change would continue onwards in the current numeral series of each journal, partially mitigating this effect. Some AOS members may be strongly against a name change and feel alienated from the society if the traditional names were changed.

The Committee believes the short-term costs associated with a name change can be overcome with thoughtful and frequent communications to AOS members and others during the transition, and with additional efforts by the AOS Editorial Office and Oxford University Press. Effective communications on social media would also reduce these concerns.

Arguably, the biggest drawback of a name change is the time lag for receiving Impact Factors for the new journal names. A journal's Impact Factor for a particular year is calculated by dividing the number of citations in that year to articles published in the previous two years as the total number of source items published in that journal during the previous two years. Table 6 shows the timeline for that process. If the journal names were changed in 2021, the new journals would not receive their first impact factors until 2024, which may affect authors up for tenure or applying for jobs during that time. Nevertheless, Clarivate would produce impact factors for *Auk* and *Condor* in 2021 and 2022, and these could be marketed to potential authors using social media and communications. Only the 2022 impact factor (published in June 2023) would not be calculated by Clarivate, but AOS and OUP would unofficially calculate it and market it as a measure of journal performance.

Table 6. Timeline for calculation and publication of a journal's Impact Factors (IF), and how this would be affected by a name change.

Year	Journal Names	IF article years	IF published	IF reflects contents of
2018	<i>Auk, Condor</i>	2016, 2017	2019	<i>Auk, Condor</i>
2019	<i>Auk, Condor</i>	2017, 2018	2020	<i>Auk, Condor</i>
2020	<i>Auk, Condor</i>	2018, 2019	2021	<i>Auk, Condor</i>
2021	New names	2019, 2020	2022	<i>Auk, Condor</i>
2022	New names	2020, 2021	2023	Not calculated
2023	New names	2021, 2022	2024	New names

The Publications Futures Committee has discussed potential journal names in consultation with the AOS Council. *Ornithological Advances* and *Ornithological Applications* would be the simplest name changes, because these names are already associated with *Condor* and *Auk*, respectively. Other suggested names included *Journal of Applied Ornithology* and *Condor: Ornithological Applications* (the unofficial status quo) as replacements for *Condor*, and *Ornithology* and *Auk: Ornithological Advances* as replacements for *Auk*.

The Committee believes the advantages of rebranding the journals to more accurately represent their content and to attract higher quality papers exceeds the costs associated with a name change. For *Auk*, the Committee recommends the name *Ornithology*. This simple, one-word title encompasses the breadth of avian science. The Committee preferred this name to *Ornithological Advances* because it is a simpler, more direct alternative that also helps to distinguish clearly the title from *Ornithological Applications*. Changing to *The Auk* as the new official name was not recommended because it would incur the short-term loss of the journal's Impact Factor without yielding long-term gains. For *Condor*, the Committee recommends retaining *Ornithological Applications*. This portion of the current name, along with the refocus to applied research over the past 6 years, corresponds with a dramatic increase in the journal's Impact Factor. The name

Ornithological Applications aptly describes the material that appears in the journal, whereas all publications about birds advance knowledge so *Ornithological Advances* lacks similar focus.

The Committee feels feedback from AOS members is essential before making a final recommendation to AOS Council on renaming the journals. Next Step: Poll AOS members about the journal names and use this information to develop a recommendation to AOS Council on the journal names.

Objective 2: Change the Model for Publishing Long Content Material

This section addresses issues related to the publication of long content materials by AOS. Long content refers to books and monographs. The Committee evaluated three issues related to publishing long content materials: the *Studies in Avian Biology* (SAB) series, potential for an AOS-OUP book series, and monographs.

SAB has been an award-winning series of book-length publications that was initiated in 1978 by the Cooper Ornithological Society (COS). Originally titled *Pacific Coast Avifauna*, the SAB book series specialized in topical works in ornithology, generally serving as an opportunity to publish longer syntheses on key topics in ornithology that were not easily met by peer-reviewed journals. When COS and AOU merged to become AOS in 2016, a number of volumes in various states of contracting and completion were in the pipeline of the series published by TaylorFrancis/CRC Press. SAB was thought to be revenue neutral at the time of the merger, but evaluation of the financial figures confirmed this was not the case. The new Editor-in-Chief at the time, Kate Huyvaert, had just assumed responsibility of the editorial direction along with the existing editorial board (previously with Brett Sandercock). Council charged the Publications Advisory Group (chaired by Alice Boyle) to evaluate the book series in light of our mission and the rapid changes in the book publishing market. The Advisory Group made the case that AOS could continue to play an important role in publishing longer content works, particularly to fill the gap left by *Ornithological Monographs* when it ceased publication in 2015. In 2017, Council enacted a moratorium on accepting new proposals for SAB until further information could be obtained on the series itself, the publishing contracts, and the changing landscape of book publishing.

AOS's publishing contract with TaylorFrancis/CRC Press (a 2016 amendment to the original 2013 contract with COS) guaranteed the society 5% of royalties on book sales, copyright, and joint imprint on the series. AOS was responsible for editorial strategy (a volunteer editorial board), editorial services (an Editor-in-Chief under contract agreement with and paid by AOS), and any additional editorial expenses, such as indexing, supplemental copy editing, etc. TaylorFrancis/ CRC Press held the contracts with the volume editor(s) who had been vetted and approved by the SAB Editorial Board and the publisher. Typically, volume editors did not share any royalties with AOS, and separately the society charged volume editors and contributing authors page charges to publish in SAB.

Financially the SAB program was net negative for AOS, and typically costly for the volume editors and contributing authors as well. The net cost to AOS from the SAB contract with CRC Press has been minimally \$10,000 per year, and in recent years has cost significantly more. When a volume finally appeared in print, prices for the books typically began at \$150 for

hardback editions and ranged much higher. No discount on the purchase price had been negotiated for society members, and libraries accounted for the bulk of the sales.

After AOS placed its moratorium on new proposals for *SAB* volumes, only one volume was published, a long-standing proposal was cancelled, and one project underway could not be completed as originally planned. With no additional projects in the pipeline, AOS terminated its failing contract with TaylorFrancis/CRC Press in December 2019. Society leadership and the Editors-in-Chief agreed to an alternative plan to publish the material of the incomplete project as “Special Feature” papers in AOS journals. Special Features is an option for publishing key groups of related papers from symposia and other efforts in *Auk* and *Condor*. Papers that are part of the Special Feature can be pulled together as a cohesive 'volume' online immediately or later. Special Features should be able to capture the most impactful contributions from what would have been potential *SAB* volumes.

Recommendation 2.1. As the first part of the publication strategy for long content materials, the Committee recommends pursuit of Special Features in AOS journals to fill the need that arises for a group of related papers, like a symposium on a hot topic at an AOS meeting (or elsewhere), and also recommends the appointment of a Special Features Editor. The *Special Features Editor* is needed to advocate this opportunity to potential authors, and to help shepherd the manuscripts through journal review and publication process. Special Features could help boost journal citation performance.

The Special Feature approach is likely to address ~75% of the *SAB* need, since some *SAB* volumes included chapters that might have been acting like filler. The workload, and therefore cost, of a Special Features editor is in line with related positions in our the editorial operations of our journal. In November 2019, the Committee recommended to AOS Council to approve the Special Feature concept for publication in AOS journals and to approve funding to appoint a Special Features editor. AOS Council approved both recommendations, and appointed Kate Huyvaert as the first Special Features Editor. Her first effort will be to produce the Special Feature in Neotropical ornithology that will appear in both *Condor* and *Auk* prior to the North American Ornithological Congress 2020 in Puerto Rico.

The second issue the Committee considered is whether AOS should be involved in the book publishing business. SAB may have been a financial success for our publisher (reasonable return for minimum effort and investment), but it was a financial drain on the society and an increasingly problematic editorial responsibility. The published volumes, though high in quality, were very expensive, often addressed narrow themes, and were becoming increasingly inaccessible to intended audiences.

Is there a valuable role AOS can play in publishing books if it has the right publishing partner and a fair contract? Discussions are underway to explore a different kind of book publishing relationship between AOS and OUP, one that would retire the *SAB* series and establish a new one with a different scope. OUP is especially interested in books and eBooks that appeal across the breadth of biology and could be textbooks for graduate courses. A partnership with AOS on a book series would provide an opportunity for OUP to network with leading ornithologists to find

material, and provide AOS with a chance to influence scientific and ornithological literature beyond our journals.

AOS-OUP book proposals would be reviewed internally according to OUP's standard approval processes, including quality assessment via external peer review and approval by a Delegate of the Press. Books covered by the partnership would be co-branded as AOS-OUP co-publications in a joint imprint, with both logos on the cover and in the front matter.

The OUP operations teams would take responsibility for all aspects of the book production and distribution process, including digital and print production, digital hosting, print distribution, and global marketing and sales. Books acquired within the partnership could, if AOS so wishes, retain AOS copyright. OUP would provide a royalty (an agreed percentage of net sales revenues) to accommodate payments to book authors, editors, and/or AOS, as agreed between OUP and AOS. AOS members would receive a 25% discount on OUP books.

AOS and OUP are in the early stages of discussing this arrangement. The opportunity would create a more functional publishing partnership with OUP than AOS had with CRC Press. OUP would fill the role of acquisition editors and AOS would fill the role of strategic partner and quality control. AOS would be primarily an intellectual partner with no financial liability. Co-branding would support the AOS mission.

Recommendation 2.2. As the second part of an AOS publication strategy for long content materials, the Committee recommends continued discussions of the potential for a book publishing partnership with OUP. Discussions should focus on clarifying the details of the partnership, both operational and economic. Such a venture should not be done passively by AOS but needs to go forward proactively, with an Editorial Advisory Board specifically charged with identifying emerging topics and potential authors. The Board could also provide feedback to the authors of prospective volumes and assist in identifying reviewers.

Monographs are the third and final part of an AOS publication strategy for long content materials. Monographs are scholarly works that exceed the page lengths of normal journal articles, but are shorter than books. *Ornithological Monographs* was a successful series established by the AOU for publishing long content material. Spanning 50 years, the first monograph was published in 1965 and the final issues appeared in 2014.

There is a need to determine if the termination of *Ornithological Monographs* left a significant gap for publishing materials that exceed the typical journal article length but are shorter than books. AOS would need to consider whether journals are the appropriate place to publish monographs. Publishing monographs would not necessarily affect our journals' Impact Factors because this metric is based on the number of articles published, not page length of articles or issues. Cost is the main constraint on monograph-length publications. The additional production costs could be offset by creating a special, mandatory page charge requirement for authors of monographs to cover. The journals would need to develop guidelines on page limits to distinguish a monograph from a book. A dedicated editor for monographs might also be needed.

Currently we do not know whether it is important for AOS to publish monographs. Often monographs target ‘niche’ topics that lack broad appeal, but good monographs are useful and cited. A publishable monograph must exceed the concept of a “long-term dataset-looking for a home.” The Committee will seek feedback from membership and OUP to assess the demand, desirability, and logistical issues associated with the publication of monographs.

Thus, the Committee has no specific recommendation to make at this time on the desirability of publishing monographs in AOS journals.

Objective 3: Prepare for Open Access Publishing

Here we evaluate how to position AOS journals for changes in the Open Access (OA) and Open Science (OS) trends in the near-term future that will affect the status and business model of scientific publishing. It is probably not useful to speculate about OA too far into the future, because mandates from government or funding sources will drive how publishers and libraries operate, which in turn will limit the approaches that we can take for AOS publications. Economic consequences for authors, publishers, libraries, and AOS, however, cannot be ignored in this discussion.

We first discuss Open Access models and their implications for AOS journals and authors. This is followed by a discussion of issues related to Open Data.

Open Access (OA). AOS journals currently employ a hybrid model of OA. AOS members have immediate full access to *Condor* and *Auk* papers, as do users at institutions that subscribe. Authors can also pay for OA, and editors can select some papers for immediate OA (called “Free Access” [FA], which does not differ from OA from the perspective of a reader). All combined, about 24% of our content is freely available at the time of publication, although only about 2% is OA that is paid by authors’ fees. After two years all content automatically becomes OA.

We do not know how long this model will be sustainable. We have no control of the larger trends in publishing. Journals can move gradually to OA and still fulfill the current mandates of Plan S in Europe. This should mean that AOS journals will remain available as venues for European authors, who are required to publish OA. Presumably if an OA mandate were to occur in the US (there have been hints of this from the Trump administration), we would follow the transition underway in Europe. In this situation, institutional subscriptions would continue to decline, reducing revenue. AOS needs to stay abreast of these trends and work with our publisher to serve our stakeholders.

Two of our most important competitors, *Journal of Avian Biology* (*JAB*) and *Ibis*, will face the pressures of Plan S before AOS journals do, because they both publish mostly European authors. At the moment, both of these journals have hybrid (Green OA) models consisting of open and paid access with Wiley. In 2019 *Ibis* had 4% OA and 9% FA, while *JAB* had 10% OA and 16% Free Access. Unlike AOS journals, the content of *Ibis* and *JAB* is not freely available even 5 years after publication. Overall, *Auk* and *Condor* compare quite favorably with our closest competitors for access to publications.

As OA grows and journal business models focus less on subscription revenue and more on OA publishing, a new business model must be developed with OUP. It seems inevitable that AOS journals will move from Free Access to more of an author-pays model, but we do not know how long it will take and how absolute OA will be in the US.

Recommendation 3.1. Determine why AOS authors have been unwilling to pay for Open Access. Currently our authors are not willing to pay for OA in AOS journals. A member survey in fall 2019 suggested that one-third of our authors pay page charges from their own pockets. Is it this lack of funds, lack of interest, or something else holding back the uptake of OA in our journals? Are authors hopeful that the large level of Free Access AOS journals provide will include their papers? Or are they satisfied if their article becomes OA after spending two years behind a paywall? Our authors are publishing in other author-pay journals (e.g., *PLoS*, *Ecology and Evolution*, *Ecosphere*). Given the funder-driven trends toward OA that are occurring globally, it is important for AOS to consider how to encourage more authors to publish under an OA license, and to identify the reasons behind the low uptake.

As publication costs for authors increase, AOS will need to consider how to make our journals available for authors with limited funding. The current hybrid OA model serves this constituency by allowing publication at minimal cost for AOS members.

It is in the interest of AOS and OUP to support authors to opt for OA publication without incurring personal costs. If AOS journals reach a critical mass of OA articles in the coming years, then it will be possible to consider flipping the business model to fully-OA. Both short-term and long-term strategies could be applied, using net revenue from the publications program or applying other assets of the society to accomplish the shift to full-OA. As a strategic priority for the society, AOS could build a substantial endowment for the journals through an aggressive AOS fundraising campaign, which could partly or completely subsidize the costs of publishing OA articles for the benefit of our author and reader communities. Free or very low-cost OA options would be unusual enough that they would likely drive the submission of high-quality papers to our journals in ways that would greatly enhance their prestige and impact factors.

A recent trend in response to OA is for publishers and libraries to work out “read and publish” deals, whereby some proportion of an institution’s library budget is allocated to covering OA publishing for that institution’s researchers. This trend is promising, as it helps to reduce the barriers to OA publishing faced by many researchers who otherwise would not have the funding available to pay thousands of dollars in publishing fees, and thereby contributes to the goal of having more research publicly available without paywalls. However, these institutional resources will likely not be available to many AOS members who contribute high-quality papers in our journals, especially those working for nonprofits or in developing countries.

Open Data. In 2019, AOS journals initiated mandatory archiving of all primary data and relevant, non-proprietary computer code in a permanent, secure, public repository. All analyses reported in an article must be repeatable using the archived data. With few exceptions (e.g., nucleotide and protein sequences archived with [GenBank](#) and movement data in [Movebank](#)), the preferred repository is Dryad, which is integrated with the submission system at Oxford University Press and free for Society members. The Editors-in-Chief will consider alternative repositories that issue a persistent identifier such as a DOI or accession number. Dryad is

recommended as the data depository, which AOS is providing free to member authors. This change has moved forward smoothly.

The Editors-in-Chief received some pushback from authors who did not want to share large datasets, so we may have lost some papers to journals that do not require data availability. This tradeoff is likely to be reduced in the future, as more journals require Open Data. The trend to share data seems to be moving forward independently from the OA requirements of Plan S.

Auk and *Condor* conform to a high Open Science standard but, like most journals, do not peer review the data and there is no process that directly links archived data to the results presented in a paper. This potential disconnect appears to occur across disciplines. Many of our authors voluntarily deposit code. AOS journals will need to be alert to Open Science trends related to code.

Objective 4: Expand Support for Students and Early-Career Professionals to Publish in AOS Journals

Through a series of programs, awards, and recognition, AOS should engage its members in skill development (e.g., peer review and writing articles for publication), especially students and early-career professionals that the society is dedicated to supporting. It is also important to celebrate their achievements. Much of this engagement can be done in person at AOS annual meetings, and augmented by online support systems that facilitate mentoring and participation in the publishing process.

AOS implemented the first [Wesley Lanyon Award](#) competition in 2019 to solicit synthesis and review papers from early-career professionals. A total of 26 submissions were received. The awardee will have their review paper published in an AOS journal and organize a symposium on their review topic for the AOS annual meeting. The individual also will receive a \$1,000 honorarium, and a \$1,000 travel stipend and gratis registration to attend the AOS annual meeting. In addition to the award winner, a number of potentially excellent review proposals were identified and solicited during the evaluation process. Thus, the competition should help to produce a steady flow of high quality reviews, in addition to others that AOS Editors pursue.

As another way to involve students in AOS journals, *Condor* and *Auk* Editors initiated a process to encourage manuscript reviewers to include their students in a mentored review process in fall 2019. This gives students valuable guidance for reviewing manuscripts in the future and for preparing their own submissions. We inform reviewers of this opportunity in their invitation-to-review letters, along with guidelines for the process we envision. We also ask reviewers to inform us if they include a student in the review process. At least four students have taken advantage of this opportunity in the final four months of 2019.

There were a number of other activities at the AOS meeting in Anchorage that were geared toward creating connections between early-career individuals and AOS journals. This included a Meet the Editors lunch, a workshop on Navigating Ornithology as an Early Career Professional, and a dinner hosted by EICs Sillett and Lindell with seven early-career individuals to discuss the process of writing a synthetic review paper.

We recommend three next steps to build on this momentum:

Recommendation 4.1. Expand the mentored review process – Students without mentors have expressed interest in being involved in the mentored review process. One approach would be to develop a system to match a student with a mentor who has been asked to review but who is not their advisor. Another approach being considered is to announce a call for students with some publication history who would like to gain more reviewing experience. They would be recorded into the Editorial Manager system as potential reviewers and used as third reviewers for submitted manuscripts. We would provide these novice reviewers with detailed guidelines for writing reviews. Although this would not be a mentored review process, the student reviewers would see all of the final reviews and gain important experience with the process.

Recommendation 4.2. Actively recruit manuscript submissions to our journals from AOS research and student award winners. Outreach to past recipients of student research awards to encourage them to publish in our journals would likely attract good manuscripts. We could incentivize this opportunity by providing social media coverage and notification of the publication of their articles on the AOS website.

Recommendation 4.3. Establish new awards for best papers published by students in AOS journals. AOS could offer an annual award for the best paper published in each journal that is first-authored by a student. Awards would be bestowed in the same years that the Painton Award is given for the best paper in *Condor* (odd-numbered years) and the Kessell Award is given for the best paper in *Auk* (even-numbered years).

Objective 5: Expand Content Usage and Audiences via Traditional Venues and Modern Communication Strategies

While AOS journals are performing well in many dimensions, we seek to further increase usage and impact through greater efforts at marketing and outreach to audiences within the science community and the public. The Committee has three recommendations to accomplish this goal.

Recommendation 5.1 Increase the number of institutional subscribers to AOS journals. As AOS explores alternative business models for the future, like OA journals and eBooks, in the near-term it is still important to be attentive to the institutional subscriptions, which currently account for an important component of journal revenue. OUP's approach to reaching academic institutions relies on large consortia agreements through which journals in broad subject areas are available to many libraries worldwide, including discounted or free access for institutions in developing regions.

A strategic focus going forward would be to target key institutions for subscription sales in regions like Asia and Latin America, where science production is expanding rapidly ([Mervis 2020](#), [National Science Board 2020](#)).

Recommendation 5.2 Increase the number of AOS members throughout the Americas and internationally. A major strategic focus going forward will be attracting authorship and readership from a diverse global audience. AOS journals are the flagship publications of the leading ornithological society of the Americas, and have a special obligation to be inclusive of the entire community of ornithologists from the Caribbean, South America, and North America. Outreach efforts to ornithologists in countries beyond the USA and Canada should be continued

and expanded, including the recruitment of an ever-more diverse authorship and editorial group. A primary goal here, not only for the journals but also for AOS as a whole, is to ensure that the “American” in our name becomes widely understood as fully inclusive of all ornithological colleagues from Nunavut to Tierra del Fuego. Despite “American” in the name of our society, AOS journals are regarded as global in coverage. There are likely many potential members to be recruited in Asia and Europe, especially ornithologists who publish actively and might be excited to join to take advantage of the lack publishing fees in AOS journals for members.

Recommendation 5.3. Expand the modes of communication with AOS members and the public through the internet and social media. Modes of communication, interaction, and information exchange have fundamentally changed with the rise of the internet and social media networks. Our journals, therefore, face a challenge – the format of their core content (i.e., scientific papers written for specialists) has barely changed over the past century.

An important strategic goal is to evaluate the feasibility and effectiveness of developing publicity and dissemination channels that take robust advantage of modern communication modalities. This is an area where the early career members of our society have the most informed insights and special talents.

Possibilities include expanding the journals’ information feeds to social media outlets (e.g., Twitter, Instagram, TikTok, Facebook, etc.), both directly and by creating content that is reposted. It is also possible to experiment with providing content in new ways, for example by working with authors to generate compelling ‘video abstracts’ in addition to the standard text abstract. This might include participating in OUP’s automation pilot for author video abstracts on Panopto. New eBook formats, for purchase or for rent, offer accessible alternatives to often prohibitively expensive, hard copy printed volumes. As a Society publisher in partnership with a nonprofit academic publishing house (OUP), we have the opportunity to innovate and experiment in order to reach a wider audience that would seek this content.

V. Concluding Remarks

Our publications are a key asset of AOS. Our journals continue to be the flagship outlets, producing exciting and innovative discoveries from an impressive range of ornithology. They are on an upward trajectory in terms of author satisfaction, citation impact factors, and financial sustainability. The editorial teams of both journals are highly professional, and their efforts have raised the standing of both journals. As of 2020, AOS journals are operating with a net surplus, which allows for innovation and strategic investment in the society’s publishing program. Our partnership with OUP has met or surpassed all publication and revenue projections, is highly constructive and collaborative, and may lead to a new book publishing opportunity to replace SAB that relates to the AOS mission and is financially beneficial to AOS and its members.

The recommendations contained in this report are designed to ensure the continued success. Key to these actions is the need to increase the quality and prestige of the AOS journals including the possibility of changing their names, maintaining a net positive business model by proactively preparing for OA and creating new models for publishing long content material, and giving students and early professionals the skills to successfully publish in AOS journals.

VII. Literature Cited

- Bornmann, L., and R. Mutz (2015). Growth rates of modern science: A bibliometric analysis based on the number of publications and cited references. *Journal of the Association for Information Science and Technology* 66:2215–2222.
<https://asistdl.onlinelibrary.wiley.com/doi/10.1002/asi.23329>
- Funk, E. R., and S. A. Taylor (2019). High-throughput sequencing is revealing genetic associations with avian plumage color. *Auk* 136:1–7. <https://doi.org/10.1093/auk/ukz048>
- Johnson, R., A. Watkinson, and M. Mabe (2018). *The STM Report: An Overview of Scientific and Scholarly Publishing*, fifth edition. International Association of Scientific, Technical and Medical Publishers. The Hague, Netherlands. https://www.stm-assoc.org/2018_10_04_STM_Report_2018.pdf
- Mervis, J. (2020). NSF rolls out huge makeover of science statistics. *Science* 367:352–353.
<https://www.sciencemag.org/news/2020/01/nsf-rolls-out-huge-makeover-science-statistics>
- National Science Board, National Science Foundation (2020). *Science and Engineering Indicators 2020: The State of U.S. Science and Engineering*. NSB-2020-1. Alexandria, Virginia, USA. <https://nces.nsf.gov/pubs/nsb20201/>
- Nilsson, J., T. Alerstam, and J.-Å. Nilsson (2014). Editorial – 20 years with *Journal of Avian Biology*. *Journal of Avian Biology* 45:1–2.
<https://onlinelibrary.wiley.com/doi/10.1111/j.1600-048X.2014.00416.x>
- Nolet, B. A., K. H. T. Schreven, M. P. Boom, and T. K. Lameris (2020). Contrasting effects of the onset of spring on reproductive success of Arctic-nesting geese. *Auk* 137:1–9.
<https://doi.org/10.1093/auk/ukz063>
- Oster, S. (1980). The optimal order for submitting manuscripts. *American Economic Review* 70:444–448. https://www.jstor.org/stable/1805232?seq=1#metadata_info_tab_contents
- Remsen, J. V., Jr., J. A. Kushlan, and B. A. Loiselle (1998). History and tradition or contemporary ornithology? Why ornithological journals should not have bird names. *Auk* 115:252–253. <https://academic.oup.com/auk/article/115/1/252/5173374>
- Van Noorden, R. (2014). Global scientific output doubles every nine years. *Nature Newsblog* <http://blogs.nature.com/news/2014/05/global-scientific-output-doubles-every-nine-years.html>
- Wijewickrema, M., and V. Petras (2017). Journal selection criteria in an open access environment: A comparison between the medicine and social sciences. *Learned Publishing* 30:289–300. <https://doi.org/10.1002/leap.1113>
- Wong, T. E., V. Srikrishnan, D. Hadka, and K. Keller (2017). A multi-objective decision-making approach to the journal submission problem. *PLoS One* 12 e0178874.
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0178874>
- Woolfenden, G. E., J. P. Hailman, and W. E. Lanyon (1998). Keep “The Auk” alive and flying. *Auk* 115:254–255. <https://academic.oup.com/auk/article/115/1/254/5173326>