

# Professional ethics survey identifies strengths and areas for improvement in the American Ornithological Society

Jennifer Walsh<sup>1,\*</sup> Reed Bowman<sup>2, ID</sup> Jeffrey D. Brawn<sup>3, ID</sup> Kristen M. Covino<sup>4, ID</sup>  
Katie M. Dugger<sup>5, ID</sup> Robert C. Fleischer<sup>6, ID</sup> Jennifer L. Houtz<sup>7, ID</sup> Sean M. Mahoney<sup>8,9</sup>  
Melinda Pruett-Jones<sup>10,†, ID</sup> Corey E. Tarwater<sup>11, ID</sup> and Jeanne Fair<sup>12, ID</sup>

<sup>1</sup>Fuller Evolutionary Biology Program, Cornell Lab of Ornithology, Cornell University, Ithaca, New York, USA

<sup>2</sup>Avian Ecology Program, Archbold Biological Station, Venus, Florida, USA

<sup>3</sup>Department of Natural Resources and Environmental Sciences, University of Illinois at Urbana-Champaign, Urbana, Illinois, USA

<sup>4</sup>Biology Department, Loyola Marymount University, Los Angeles, California, USA

<sup>5</sup>U.S. Geological Survey, Oregon Cooperative Fish and Wildlife Research Unit, Department of Fisheries, Wildlife and Conservation Sciences, Oregon State University, Corvallis, Oregon, USA

<sup>6</sup>Center for Conservation Genomics, Smithsonian Conservation Biology Institute, Washington, D.C., USA

<sup>7</sup>Department of Ecology and Evolutionary Biology, Cornell University, Ithaca, New York, USA

<sup>8</sup>Department of Wildlife, Cal Poly Humboldt, Arcata, California, USA

<sup>9</sup>School of Natural Resources and the Environment, The University of Arizona, Tucson, Arizona, USA

<sup>10</sup>American Ornithological Society, Chicago, Illinois, USA

<sup>11</sup>Department of Zoology and Physiology, University of Wyoming, Laramie, Wyoming, USA

<sup>12</sup>Los Alamos National Laboratory, Biosecurity and Public Health, Los Alamos, New Mexico, USA

<sup>†</sup>Retired

\*Corresponding author: [jlw395@cornell.edu](mailto:jlw395@cornell.edu)

## ABSTRACT

In response to a growing need to foster ethical behavior within scientific societies, the American Ornithological Society's (AOS) professional ethics committee conducted a survey of members in spring 2021 to identify the primary challenges and ethical conduct concerns. The survey indicated that the AOS has a strong culture of professional ethics and highlighted areas needing improvement. Participants identified discrimination and lack of inclusivity (44%), scientific fraud and abuse in data and publications (35%), and sexual harassment (31%) as the highest potential risks for unethical behavior in our organization. Moreover, approximately one-third of respondents (34%) had personally witnessed or experienced unethical behavior as an AOS member. A smaller proportion (16%) felt pressure to compromise their work standards in ornithology. These findings are likely representative of broader patterns that professional, scientific societies face as they seek to provide safe, welcoming, and thoughtful environments for researchers to share their work, gain valuable feedback, and develop collaborations. The survey results also create a framework for workshops, training opportunities, and disseminating information within the AOS and, ideally, with the broader, international community of ornithologists.

**Keywords:** professional ethics survey, American Ornithological Society, inclusivity, diversity, transparency

## How to Cite

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## LAY SUMMARY

- Scientific societies have an obligation to foster ethical behavior of their membership.
- The American Ornithological Society (AOS) has conducted a survey to help identify the primary challenges and ethical conduct concerns that face the ornithological community.
- We disseminate the major findings of the survey here and discuss implications and future steps the AOS to address member concerns.
- Overall, AOS ranked admirably regarding the overall ethical culture of our professional society, but the survey also identified room for improvement.

## Encuesta de ética profesional identifica fortalezas y áreas de mejora en la Sociedad Ornitológica Estadounidense

## RESUMEN

En respuesta a la creciente necesidad de fomentar el comportamiento ético dentro de las sociedades científicas, el comité de ética profesional de la Sociedad Ornitológica Estadounidense (AOS, por sus siglas en inglés) realizó una encuesta entre los miembros en la

primavera de 2021 para identificar los principales desafíos y preocupaciones de conducta ética. La encuesta indicó que la AOS tiene una sólida cultura de ética profesional y destacó las áreas que necesitan mejorarse. Los participantes identificaron la discriminación y la falta de inclusión (44%), el fraude científico y el abuso en datos y publicaciones (35%) y el acoso sexual (31%) como los mayores riesgos potenciales de comportamiento no ético en nuestra organización. Además, aproximadamente un tercio de los encuestados (34%) había presenciado o experimentado personalmente un comportamiento no ético como miembro de la AOS. Una proporción menor (16%) sintió presión para transigir sus estándares de trabajo en ornitología. Es probable que estos hallazgos sean representativos de patrones más amplios a los que se enfrentan las sociedades científicas profesionales en su intento de proporcionar entornos seguros, acogedores y reflexivos para que los investigadores compartan su trabajo, obtengan comentarios valiosos y desarrollen colaboraciones. Los resultados de la encuesta también crean un marco para talleres, oportunidades de capacitación y difusión de información dentro de la AOS e, idealmente, de la comunidad internacional más amplia de ornitólogos.

*Palabras clave:* diversidad, encuesta de ética profesional, inclusión, Sociedad Ornitológica Estadounidense, transparencia

## INTRODUCTION

Scientific societies play an important role in facilitating the advancement of scientific knowledge, largely through the fostering of collaboration, professional networking, and career development (Abernethy et al. 2020). It is increasingly recognized that to achieve scientific advancement, broadening participation within a scientific society is critical, resulting in diverse perspectives and approaches to scientific inquiry (Nielsen et al. 2017). Scientific societies can take meaningful leadership roles in shaping the ethics and culture of their fields and proactive efforts in this realm can create safer and more inclusive environments while simultaneously offering essential training that ensures the appreciation and prioritization of ethical and inclusive practices in our broader professional circles. Ethics in science covers a broad area of behaviors. Ethical conduct includes the honesty and integrity of the scientific practice, as well as how we may treat each other. To this end, the American Ornithological Society (AOS) is well positioned to promote a high level of ethical conduct by ornithologists through the development of educational resources and activities for its members as well as the broader ornithological and scientific communities. To do this strategically and effectively, AOS must first identify the key issues of ethical conduct as perceived by the society's members. Such information will allow the AOS to identify priority areas for future education, workshops, and engagement. To this end, in 2021, the AOS Professional Ethics Committee (PEC) designed and disseminated a survey to current AOS members seeking to identify the primary challenges and ethical conduct concerns that face the ornithological community. To promote transparency and highlight areas for improvement, we present the survey results here and discuss options for future activities by the PEC with an overarching goal of best serving our membership and the broader ornithological community.

## SURVEY DESIGN AND DEMOGRAPHIC INFORMATION

The survey consisted of 13 questions (Supplementary Material), 6 of which were designed to collect demographic data from survey respondents. The online survey was open from March 4 to April 4, 2021, and weekly reminders and requests for survey participation were sent to our general membership via email for the duration of the survey period. In total, 479 individuals participated (~19% of our current membership). Based on these results, we estimate that our response rate is a large enough sample size to put us within a 5% margin of error (<https://www.surveymonkey.com/curiosity/how-many-people-do-i-need-to-take-my-survey/>). Raw survey data were filtered to remove missing responses separately for each question. For open-ended questions, we categor-

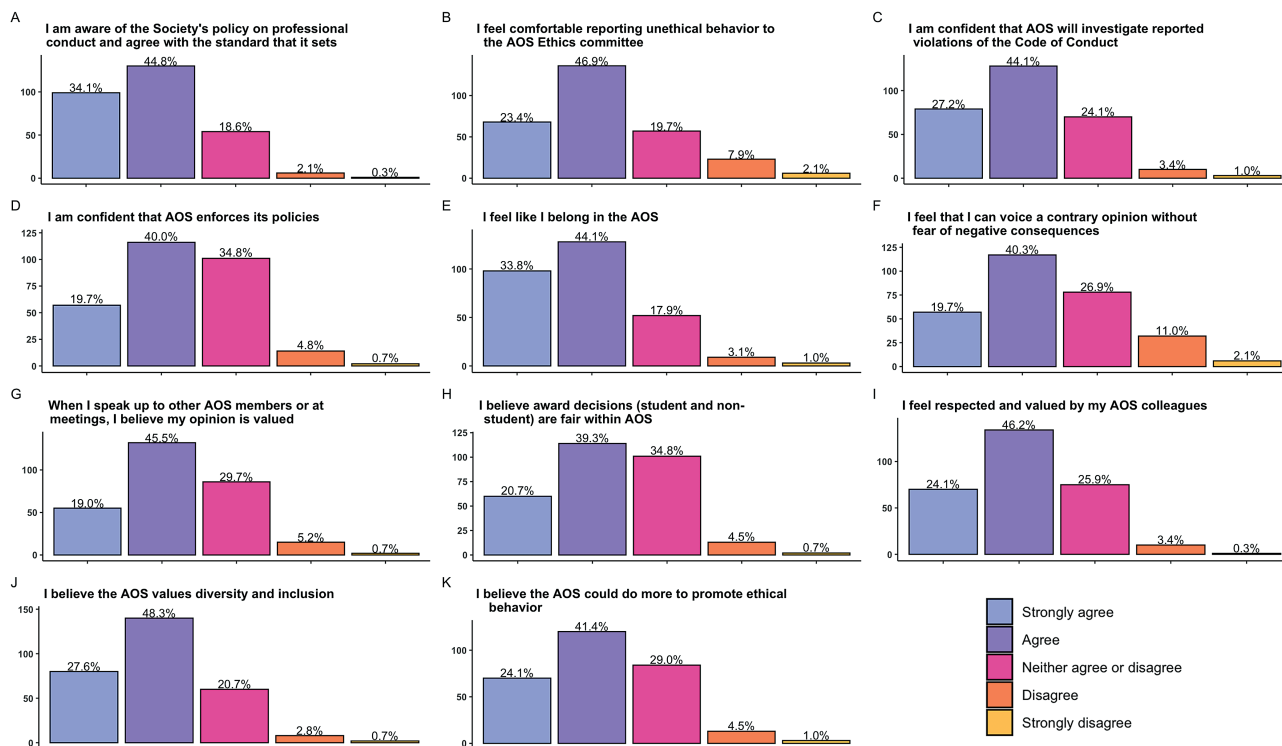
ized responses to facilitate interpretation (see details below). Survey respondents spanned the full range of career stages and professional affiliations. Of respondents, 50% fell in the >5-year post-terminal degree, 26% were retired or emeritus, and 16% of respondents were students or early professionals (early-career, defined here as postdoctoral researchers or members <5-year post-terminal degree). Survey participants were not proportionally representative of the current overall membership, with our current membership of each of the above categories as follows: regular members (>5-year post-terminal degree: 26.87%), emeritus members (10.7%), and early-career members (35.9%). While most of the survey participants were at academic institutions (~55.2%), survey respondents were also currently employed in a suite of professional sectors including Federal/State government agencies, non-profit organizations, and consulting groups.

## RESPONSE TO CLOSE-ENDED QUESTIONS

The survey asked a series of close-ended questions designed to evaluate potential challenges or ethical conduct concerns facing the AOS. When given a list of options, respondents identified discrimination and lack of inclusivity (44%), scientific fraud and abuse in data and publications (35%), and sexual harassment (31%) as the highest potential risks for unethical behavior in our organization (Figure 1). Approximately one-third of respondents (34%) have personally witnessed or experienced unethical behavior as a member of AOS. Of this 34%, ~79% of respondents who have either witnessed or experienced unethical behavior fell in the >5-year post-terminal degree or retired categories. A smaller proportion (16%) have felt pressure to compromise their work standards in ornithology in some way. Similarly, 74% of respondents who have felt pressure to compromise their work standards fell in the >5-year post-terminal degree or retired member categories. Moreover, the ranking of identified risks to professional ethics varied by career stage (Figure 1). For early-career ornithologists, top concerns were discrimination or lack of inclusivity (30% of responses), sexual harassment (21% of responses), and mistreatment of AOS members (13%). For respondents that were >5-year post-terminal degree, their top concerns were discrimination or lack of inclusivity (24% of responses), sexual harassment (16% of responses), and scientific fraud and abuse in data and publications (15% of responses). For retired ornithologists, their top concerns were scientific fraud and abuse in data and publications (28% of responses), quality of data and reporting (15%), and discrimination or lack of inclusivity (15%). While our members highlighted several of these areas as possible risks to professional ethics within our society, when asked to describe the overall ethical culture of AOS on a scale of 1 to 4 (with 4 being the strongest and



**FIGURE 1.** Summary of survey responses identifying the highest risk for ethics in our organization. The plot title represents the question posed to survey participants. We asked that each respondent choose 2 risks. Responses were grouped by career stage (here, only represented as 3 condensed categories: student and early professional, >5-year post-terminal degree, and retired). Total number of responses (typically 2 responses per survey participant) include 431 responses from members >5-year post-terminal degree, 273 responses from retired members, and 201 responses from early-career and student members. For visualization purposes, the x-axis is labeled 1–9 for each category, with numbers corresponding to the following response: (1) Scientific fraud and abuse in data and publications; (2) quality of data and reporting; (3) conflicts of interest; (4) mistreatment of wild animals in research; (5) not having applicable permits for research; (6) mistreatment of aos members; (7) bullying of members in social forums or at meetings; (8) sexual harassment; and (9) discrimination and lack of inclusivity. Count is on the y-axis.



**FIGURE 2.** Count (y-axis) and percentages (above bars) of responses detailing respondents' experiences as a member of AOS. The question posed in the survey is shown as the title of each plot. The legend is the same for all plots and the percent for each response is included.

1 being the weakest), AOS ranked relatively highly with the average rank of 3.2.

We asked respondents a series of questions about the Society's policies (familiarity with policies, and confidence that policies are enforced), as well as inclusivity and eth-

ical behavior directly within AOS (Figure 2). For each question, respondents were given options to agree, disagree, or express a neutral response. For all questions, respondents largely agreed or were neutral, with a proportionally smaller percent of respondents disagreeing (mean: 6%) or

strongly disagreeing (mean: 1%) with the posed statements. Respondents disagreed with the following two statements: (1) I feel comfortable reporting unethical behavior to the AOS ethics committee (10% disagreed or strongly disagreed) and (2) I feel that I can voice a contrary opinion without fear of negative consequences (13% disagreed or strongly disagreed). The respondents who disagreed with the above statements were not skewed toward one career stage over another. While respondents were proportionally positive in their assessment of the culture and policies of AOS, 66% either agreed or strongly agreed that the Society could do more to promote ethical behavior.

## RESPONSES TO OPEN-ENDED QUESTIONS

We also asked respondents 2 open-ended questions to gauge individual assessment of “what makes an inclusive society” and to clarify perceptions about the most important aspects of ethical conduct. For the first question, we asked respondents to list three adjectives or words that describe a successful and inclusive society. We compiled and filtered the list for ease of visualization and interpretation. For responses that were given as complete sentences, the authors manually filtered the entries down to one word based on sentence context. We did not include responses that occurred less than three times and filtered out missing data. After filtering, respondents used 75 key terms to describe a successful scientific society. Words that were particularly prevalent among respondents included: welcoming (7% of responses), diverse (7%), respectful (6%), open (5%), inclusive (5%), honest (5%), equitable (4%), transparent (4%), supportive (4%), fair (3%), and ethical (3%).

For the second question, we asked respondents to describe what they see as the most important aspect of ethical, professional conduct for ornithologists. To summarize these data, 3 of the authors independently assigned each response to one of 11 categories. If 2 survey reviewers assigned responses to more than one category, we used the majority category as the response. After filtering to remove missing data, we were able to categorize 361 responses. Most of the responses (42%) were placed in the category “behaving honestly, professionally, and collaboratively”. Responses were further categorized as “scientific rigor and integrity” (21%), “active diversity, equity, and inclusion efforts” (10%), “promoting ethical behavior” (7%), “remaining objective” (5%), “fostering open dialogue even when views are opposing” (4%), “bird advocacy” (4%), “transparency and accountability” (4%), “adherence to IACUC protocols” (2%), “ethical editorial practices” (1%), and “abiding by protocols and regulations” (1%).

## NEXT STEPS FOR PROFESSIONAL ETHICS IN OUR SOCIETY

This survey is the first step in identifying long-term ethics goals, improved procedures, and training needs for our members. Overall, AOS ranked admirably regarding the overall ethical culture of our professional society, but the survey also identified room for improvement. Approximately one-third of our respondents have personally witnessed or experienced unethical behavior as a member of AOS. A smaller proportion (16%) have felt pressure to compromise their work standards in ornithology in some way, which has both broader

and important implications for ornithological research that warrants further exploration. However, because we did not include follow up questions to characterize these experiences more fully, it is difficult to compare our results to those of surveys conducted by other scientific societies. In our efforts to draw comparisons, we found that many of the relevant surveys from similar scientific societies included very specific questions for categorizing unethical behavior. For some context, a survey by the American Historical Association and the American Political Science Association reported that 28% and 31.7% of their respondents, respectively, reported being put down or condescended to at a conference ([American Historical Association 2018](#), [Sapiro and Campbell 2018](#)). A recent study by the Royal Astronomical Society in London reported that 44% of their respondents had experienced issues with bullying and harassment ([Ball 2021](#)). A study by the Society for the Study of Evolution found that 14% of survey participants had experienced unwelcome behavior at an Evolution meeting ([O’Meara et al. 2019](#)). Follow-up surveys designed to identify the types of unethical behavior observed within AOS are warranted to better understand the scope of issues within our professional circles, as this currently remains open ended. Despite reported observations of unethical behavior in our society, our members highly ranked the overall ethical culture of AOS. Moreover, for many of the close-ended questions, the great majority of responses were categorized as either positive or neutral. Therefore, while we have important work to do in our efforts to continue supporting and building the ethical culture of AOS, we are engaging in these efforts from a position of strength and broad mutual respect, at least among those of the current membership who responded to the survey. We recognize that the responses are only reflective of those AOS members who responded, and we outline an approach for addressing this potential issue below. Nevertheless, our survey’s results indicate that our members felt that discrimination, lack of inclusivity, scientific fraud, and sexual harassment are important topics for AOS to focus on moving forward. Based on this initial survey, the PEC has outlined several subsequent steps for gathering additional information, offering training opportunities, and engaging our membership in conversations around professional ethics and behavior in ornithology.

## Follow-up surveys and targeted discussions.

While this initial survey gives the PEC valuable information to work with moving forward, more targeted discussions with members from different career stages and sectors will be critical for identifying specific challenges and ensuring that future training and workshops cater to the professional needs of our members. As mentioned previously, a targeted resurvey effort is warranted to identify more specific categories of unethical behavior. We foresee that these details will be important for designing and implementing appropriate training and workshop opportunities. Moreover, given the relatively low response rate from students and early professional members, the PEC plans to initiate focused discussions and open forums with the Student Affairs Committee and the Early Professional Committee to ensure that the survey responses received are representative of the concerns across career stages. It seems unlikely that our early career members are unconcerned with ethical behavior within AOS; however, we may have failed to frame or promote the survey in a way that highlights critical

questions or concerns that are most relevant and engaging to our student and early professional members. For example, we see a shift in the top ethical concerns across career stages, which may be reflective of broader cultural shifts or perhaps of different experiences across career stages. We also saw that of the respondents who have witnessed or experienced unethical behavior or have felt pressured to compromise their work, a high percentage (over 70%) fell into mid to late-career categories, which could suggest a shift in our broader scientific culture. Lastly, while the survey was anonymous, there is also a possibility that our early career members felt hesitant to answer questions about harassment and unethical behavior in a broad survey for fear of judgement or retaliation. While we hope this is not the case, more focused discussions within a cohort (possibly with a facilitator) may help us identify key concerns to our student and early professional members and ensure that the voices of our membership are being heard equally across career stages. AOS is already taking concrete steps to increase engagement across career stages, one example being the addition of two students elected by the AOS student membership to serve as voting members of AOS Council. The PEC also plans to initiate open conversations with the AOS Diversity and Inclusion (DandI) Committee to brainstorm ways that we can help contribute and facilitate the important and ongoing efforts of DandI within our society. The PEC further notes that a substantial block of responses to most of the close-ended questions fell in the neutral category, which might indicate that these respondents were unsure or uninformed about the status of that issue in the context of the AOS. Future surveys should be designed to include options for indicating either a lack of uncertainty or perceived lack of information on the part of the survey respondents.

### Continued improvement of our ethical culture.

Of the many options presented to our members in the close-ended portion of the survey, many of our members felt that the risks of discrimination, a lack of inclusivity, harassment, and scientific fraud required the greatest ongoing attention within our society. In June 2018, the National Academies of Sciences, Engineering and Medicine published its Consensus Study Report on sexual harassment in Science, Engineering and Medicine ([National Academies of Sciences, Engineering and Medicine 2018](https://www.nationalacademies.org/2018/06/consensus-study-report-on-sexual-harassment-in-science-engineering-and-medicine)). The report outlined guidance for addressing issues of ethics, diversity, and inclusion and the basis for harassment that has persisted in the science, technology, engineering, mathematics, and medicine fields (STEMM). In response to this report and others, the Societies for the Consortium on Sexual Harassment in STEMM was created in 2019 (<https://societiesconsortium.com/>). The AOS is a member of the Societies Consortium, which understands the role of science societies in setting standards for excellence and modeling good conduct and culture in science. Members of the PEC have, and will continue to, participate in webinars and workshops offered by the Societies Consortium to integrate this information with AOS initiatives.

Members of the PEC are committed to developing programs and training opportunities, as well as forming collaborations with existing AOS committees to help address these concerns. Several of these endeavors are underway, including the recent development of a professional ethics education plan which proposes several mechanisms for engaging members in con-

versations about ethics as well as the development of relevant training opportunities. This survey is one of the many proposed action items developed in the education plan. We are planning a Town Hall style meeting in the Fall of 2022 to discuss the results of this survey and seek feedback from our membership. In addition, the PEC recently (May 2021) offered two workshops hosted by ADVANCEGeo (<https://serc.carleton.edu/advancegeo/workshops/index.html>) that focused on training individuals to (1) identify different ways in which harassment can arise in research environments and (2) intervene safely as bystanders. Given the positive feedback from AOS members who attended these workshops, the PEC plans to explore future workshop offerings. In the short-term, this may be done again through ADVANCEGeo. In the long-term, members of the PEC are exploring a “Train the Trainers” workshop through ADVANCEGeo that would help build a network of trained facilitators within AOS to ensure that this type of opportunity is widely available to any of our members who are interested. We feel that this type of training may be particularly relevant for conferences, wherein members of the PEC can proactively train volunteers in bystander intervention to help play an important role of SAFE Committee allies at our in-person and virtual events.

### Increasing clarity and transparency of the reporting process.

Our survey results further indicated that 10% of respondents did not feel comfortable reporting unethical behavior or conduct to the PEC. The PEC worked closely with AOS leadership to revise the society’s Code of Conduct and Ethics (<https://americanornithology.org/about/governance/code-of-professional-conduct/aos-code-of-conduct-ethics-policy/>) and these changes include detailed information on the types of conduct specifically prohibited, jurisdiction of the AOS and its committees involved in investigating and adjudicating reported violations of the code, requirements for filing complaints, investigation procedures and guidelines, and the range of disciplinary action that may be taken in response to a code violation. There are differences between a code of ethics and a code of conduct. A code of ethics is broad, giving a society’s members a general idea of behaviors that are acceptable and encouraged within its membership. A code of conduct is more focused and clearly defines what is unacceptable or acceptable behavior. The two are often combined, such as with the CCE of the AOS. Research misconduct is defined in the CCE, which includes, but is not limited to fabrication, falsification, and plagiarism.

The revised CCE also (1) provides options for reporting code violations by victims as well as their surrogates or independent witnesses, (2) clarifies why the society is unable to accept anonymous complaints, with one of several reasons being that an investigation cannot proceed without the ability to secure records, documents, and other evidentiary materials based upon direct information from a known source, and (3) explains the extent to which the society strives to maintain confidentiality in all investigative procedures, unless safety or law requires otherwise, but that the AOS cannot guarantee absolute confidentiality and anonymity to those individuals involved in a complaint, its investigation, or potential disciplinary action. There is a clear process for investigations that follow standard principles. These changes to the CCE further demonstrates the society’s commitment to the ethical conduct

expected to foster a welcoming and inclusive professional community, and to offer an improved guide to the reporting process steps and investigation procedures that are followed in the event of a breach of the code. The intention of PEC is to increase the clarity and transparency of the reporting and investigation process. However, once an official investigation begins the first principle of ethical investigations, which is confidentiality, is followed to the best of the committee's ability.

Before initiating the effort to revise the CCE in early 2021, the PEC invited additional AOS members to the committee to broaden representation of the ornithological community (different career stages, professional affiliations, and leaders of other ornithological societies who are also members of the AOS) willing to serve on the PEC. All PEC committee members are available to individuals who may be considering reporting a code violation, but prefer an initial conversation with a specific member of the PEC at the outset. The goal of the creation and then expansion of the PEC coupled with the more detailed overview of the reporting process in the revised CCE was to create a safe climate for all when reporting code violations or incidents. Additionally, the PEC will continue to work toward a better understanding of the needs and concerns of our members and ensuring that these concerns are heard and addressed through its open forums and town hall events at AOS in-person and virtual meetings. In doing so, we seek to facilitate open dialogue within AOS as well as the broader ornithological community.

### Future goals for AOS:

In the past two decades ethical issues in science have gained more attention than ever before (Bullock and Panicker 2003, Iverson et al. 2003, Hardy 2016, Edwards and Roy 2017), and this increased awareness is part of the most recent science collaboration revolution. Ethical review by Research Ethics Committees—started in the 1970s in response to concerns of human subjects in medical research—are now a standard part of natural and social science research (Schuppli and Fraser 2007). While most ethics in research has dealt with scientific and data integrity (Iverson et al. 2003, Ellenberg 2012, Boughton et al. 2018), or animal use (Combes and Balls 2014, Bayne and Turner 2019), there has also been a shift to considering professional ethics and behavior in the broader workplace environment (Sapiro and Campbell 2018, Tenbrunsel et al. 2019). The questions posed by our survey efforts are undoubtedly broad and the ethical issues we are facing are nuanced and threaded throughout our interactions in our respective work environments, not just within AOS. We acknowledge that our membership spans several backgrounds and experiences and that our findings, while placed in a very specific AOS context, are likely representative of broader trends within our scientific communities. With this acknowledgement in mind, the PEC has chosen to focus within AOS specifically, as scientific societies have an important role to play to provide safe, inclusive, and thoughtful environments for researchers to share their work, gain valuable feedback, and develop collaborations. Moreover, our focus on these issues from an AOS perspective provides a tangible platform for disseminating information, workshops, and training opportunities. While trying to place our findings in a broader scientific context feels necessary but challenging, one possible route forward is a larger conversation with other or-

nithological societies, which may increase engagement and bring to perspectives to the table. The AOS is the second oldest scientific society in North America, founded in 1883 as American Ornithologists' Union, and it will continue to evolve to encompass and bolster the highest ethical standards for ornithological research and publication, as well as for the community of ornithologists that support each other's diversity and work through scientific debate to better understand wild birds and ourselves.

### Supplementary material

Supplementary material is available at *Ornithology* online.

### Acknowledgements

We thank AOS staff for their help in disseminating and advertising the survey and for providing an overview of membership statistics for comparative purposes.

### Ethics statement

All data presented here have been filtered to preserve anonymity.

### Conflict of interest statement

None to declare.

### Data availability

Filtered data that includes answers to closed-ended responses is available at Walsh et al. (2022).

### LITERATURE CITED

- Abernethy, E. F., I. Arismendi, A. G. Boegehold, C. Colón-Gaud, M. R. Cover, E. I. Larson, E. K. Moody, B. E. Penaluna, A. J. Shogren, A. J. Webster, et al. (2020). Diverse, equitable, and inclusive scientific societies: progress and opportunities in the Society for Freshwater Science. *Freshwater Science* 39:363–376.
- American Historical Association (2018). Results of the 2018 AHA Survey on Sexual Harassment. Perspectives on History, September 27. Nature. <https://www.historians.org/publications-and-directories/perspectives-on-history/october-2018/results-of-the-2018-aha-survey-on-sexual-harassment>
- Ball, P. (2021). Bullying and harassment are rife in astronomy, poll suggests. <https://www.nature.com/articles/d41586-021-02024-5>
- Bayne, K., and P. V. Turner (2019). Animal welfare standards and international collaborations. *ILAR Journal* 60:86–94.
- Boughton, S. L., M. K. Kowalczyk, J. J. Meerpohl, E. Wager, and E. C. Moylan (2018). Research Integrity and Peer Review—past highlights and future directions. *Research Integrity and Peer Review* 3:3. doi:10.1186/s41073-018-0047-1.
- Bullock, M., and S. Panicker (2003). Ethics for all: Differences across scientific society codes. *Science and Engineering Ethics* 9:159–170.
- Combes, R. D., and M. Balls (2014). The Three Rs—Opportunities for improving animal welfare and the quality of scientific research. *Alternatives to Laboratory Animals* 42:245–259.
- Edwards, M. A., and S. Roy (2017). Academic research in the 21st century: Maintaining scientific integrity in a climate of perverse incentives and hypercompetition. *Environmental Engineering Science* 34:51–61.

- Ellenberg, S. S. (2012). Protecting clinical trial participants and protecting data integrity: Are we meeting the challenges? *PLoS Medicine* 9:e1001234.
- Hardy, M. C. (2016). Drafting an effective ethical code of conduct for professional societies: A practical guide. *Administrative Sciences* 6:16.
- Iverson, M., M. S. Frankel, and S. Siang (2003). Scientific societies and research integrity: What are they doing and how well are they doing it? *Science and Engineering Ethics* 9:141–158.
- National Academies of Sciences, Engineering, and Medicine (2018). *Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine*. The National Academies Press, Washington, D.C., USA. doi:10.17226/24994.
- Nielsen, M. W., S. Alegria, L. Börjeson, H. Etzkowitz, H. J. Falk-Krzesinski, A. Joshi, E. Leahey, L. Smith-Doerr, A. W. Woolley, and L. Schiebinger (2017). Gender diversity leads to better science. *Proceedings of the National Academy of Sciences USA* 114:1740–1742.
- O'Meara, B., A. Case, J. Wiggins, K. Zamudio, R. Baucom, and S. Strauss (2019). Unwelcome behaviors at the evolution meetings: Survey results. Deposition on June 19, 2022. <https://doi.org/10.6084/m9.figshare.8311595.v2>
- Sapiro, V., and D. Campbell (2018). Report on the 2017 APSA survey on sexual harassment at annual meetings. *PS: Political Science and Politics* 51:197–206.
- Schuppli, C. A., and D. Fraser (2007). Factors influencing the effectiveness of research ethics committees. *Journal of Medical Ethics* 33:294–301.
- Tenbrunsel, A. E., M. R. Rees, and K. A. Diekmann (2019). Sexual harassment in academia: Ethical climates and bounded ethicality. *Annual Review of Psychology* 70:245–270.
- Walsh, J., R. Bowman, J. D. Brawn, K. M. Covino, K. M. Dugger, R. C. Fleischer, J. L. Houtz, S. M. Mahoney, M. Pruett-Jones, C. E. Tarwater, et al. (2022). Data from: Professional ethics survey identifies strengths and areas for improvement in the American Ornithological Society. *Ornithology* 140:ukac053. doi:10.5061/dryad.hqbzkh1kk.