

Journal of Wildlife Management, Wildlife Society Bulletin, and

Wildlife Monographs

Author Guidelines

May 2023

Prepared by Allison S. Cox, Anna C. S. Knipps, Jeffrey M. Levenson, Paul R. Krausman, Bret A. Collier, and Steeve Côté.

SHORT GUIDELINES

These Guidelines apply to submissions to *Journal of Wildlife Management (JWM, The Journal)*, *Wildlife Society Bulletin (WSB, The Bulletin)*, and *Wildlife Monographs (Monographs)*, which are published by The Wildlife Society (TWS, The Society). These 3 journals have similar styles but cover different subject matters. Therefore, authors should review subject matter guidelines to select the appropriate outlet (see [Subject Matter Differences](#)) before submission ([Appendix A](#)).

Our journals strive to strike a balance between ease of submission for authors and consistency of content and formatting for editors and reviewers. Therefore, we provide an abbreviated version of our guidelines in the following template. **This is the primary template you will need to use in preparing your manuscript.** See [Wildlife Monographs subject matter](#) for additional requirements for monographs. Following a paper's acceptance, journal staff will ensure that stylistic requirements not outlined in the template are met. If you have specific questions, you can refer to the table of contents, which appears after the template, to navigate to topics on subject matter, journal policy, format, or style. If you have questions related to the preparation of your work, send us an email (journals@wildlife.org) and we will be happy to assist.

BEGINNING OF TEMPLATE

1 17 Oct 2017 (TWS journals accept .doc or .docx files only)

2

3 RH: Doe and Smith • Bear dispersal (Doe et al. if >2 authors; running head <45 characters)

4 **Natal dispersal of black bears in a fragmented landscape** (limit to 15 words)

5 Jane S. Doe, Wildlife University, 1293 Bighorn Avenue, Wetland City, MD 20814, USA

6 Todd L. Sims,¹ Smith and Associates Wildlife Consulting, 1717 Woodpecker Drive,

7 Burrowsville, MD 20814, USA

8 ¹ Current affiliation: Todd L. Sims, Missouri Department of Conservation, 1708 Capital Drive,

9 Jefferson City, MO 65102, USA (use footnotes if current affiliation differs from

10 affiliation during study)

11

12 **Correspondence:** Jane S. Doe, Wildlife University, 1293 Bighorn Avenue, Wetland City, MD

13 20814, USA. Email: janesdoe@wildlife.org (include address and email for corresponding author)

14

15 **ABSTRACT** Begin abstract text here. Limit to one paragraph not exceeding one line/page of

16 manuscript text (3% of length of text), including References. Use Times New Roman 12-point

17 font and double space text.

18 **KEYWORDS** black bear, Brownian bridge, corridor, Florida, natal dispersal, prospecting,

19 telemetry, *Ursus americanus* (present in alphabetical order, scientific names in italics)

20 Begin the introduction text immediately after keywords with no heading. This section should

21 introduce the problem, review the relevant literature related to the topic, highlight gaps in our

22 understanding of the topic, indicate who will benefit from the data, and end with a clear
23 statement of objectives and hypotheses (if applicable). A synthetic introduction is especially
24 important for *Monographs*. Do not summarize methods or results in the introduction section. Use
25 chronological order followed by alphabetical order for citations in a series (Wolf and Kendrick
26 1986, Jones 2002, Merrill et al. 2002).

27 **STUDY AREA**

28 Include (as relevant to the study) location, temperature, precipitation, elevation, land use,
29 seasons, animal community composition, topography, and major vegetation. Use past tense for
30 study area descriptions (e.g., average annual precipitation was 46 cm, vegetation was primarily
31 grass). Exceptions include geological formations that have been present for centuries (e.g.,
32 mountains).

33 **METHODS**

34 Methods should be brief and include dates, sampling schemes, duration, research or experimental
35 design, and data analyses. Use active voice throughout the manuscript. Include in the methods all
36 relevant statistical criteria (e.g., α value). Methods must be described in adequate detail for a
37 reader to duplicate them if initiating a new study, but authors can cite previously published
38 methods without explanation. Avoid using acronyms for species names or variables measured
39 (e.g., use canopy rather than CAN_COV).

40 **Second-level heading**

41 Capitalize only the first word in second-level headings and present in bold font. Reduce or
42 eliminate the need for subheadings by writing clearly and logically. Avoid writing sections that
43 consist of only one paragraph.

44 Third-level heading

45 If third-level headings are necessary, use the format for second-level headings but with regular
46 type (not bold).

47 **RESULTS**

48 Journals of The Wildlife Society **require** that authors clearly describe the **magnitude of the**
49 **biological effect** in addition to the results of statistical analyses (beta values do not satisfy this
50 requirement). This requirement can often be met with figures showing relationships or examples
51 in the text (e.g., predicted distance was 5 km for males and 15 km for females; for every 10%
52 increase in forest cover, annual survival increased by 3%). Avoid excessive overlap in
53 presentation of specific results in the text and tables. Reserve comments on interpretation of
54 results for the discussion.

55 **DISCUSSION**

56 The discussion should address the predictions and hypotheses tested **without repeating the**
57 **results**. It should begin with a statement of how the study did or did not support the hypotheses
58 and then follow up with an explanation as to why or why not using the author's data and
59 previously published works to support conclusions. Limitations of the work should also be
60 mentioned in the discussion. Reasonable speculation and new hypotheses to be tested may be
61 included in this section.

62 **MANAGEMENT IMPLICATIONS** (Authors can choose the heading **MANAGEMENT**
63 **IMPLICATIONS, CONSERVATION IMPLICATIONS, or RESEARCH**
64 **IMPLICATIONS**)

65 The management implications section should be short (usually one paragraph) and direct but
66 explain issues important to management, conservation, or advancing wildlife science that are
67 derived directly from or addressed in your results. Do not offer recommendations that are beyond
68 the scope of your study. Address specific research, conservation, or management opportunities or
69 problems in this section. From the Field, Emerging Research, and Tools and Technology articles
70 in *WSB* should not have a management implications section.

71 **ACKNOWLEDGMENTS**

72 This section should be brief and include initials (rather than first names) and last names of
73 individuals thanked.

74 **ETHICS STATEMENT**

75 Provide the appropriate documentation that the study adhered to relevant regulations and
76 guidelines regarding the ethics of animal welfare and applicable protocol numbers. This
77 requirement applies to manuscript reporting results of studies that directly involve vertebrate
78 animals, including observational studies and analyses of data derived from studies. If the study
79 involved humans (e.g., surveys), provide appropriate documentation that you obtained proper
80 approval to perform research involving humans. (see **SECURING APPROPRIATE**

81 **APPROVALS**)

82 **REFERENCES**

- 83 Burnham, K. P., and D. R. Anderson. 1998. Model selection and inference: a practical
84 information-theoretic approach. Springer-Verlag, New York, New York, USA. (book;
85 note space between author initials for all entries)
- 86 Mosby, H. S. 1967. Population dynamics. Pages 113–136 in O. H. Hewitt, editor. The wild
87 turkey and its management. The Wildlife Society, Washington, D.C., USA. (book chapter)
- 88 Pulliam, H. R. 1988. Sources, sinks, and population regulation. *American Naturalist* 132:52–61.
89 (journal article)
- 90 Stout, S. L., and R. Lawrence. 1996. Deer in Allegheny Plateau forests: learning the lessons of
91 scale. Pages 92–98 in *Proceedings of the 1995 Foresters Convention*. Society of
92 American Foresters, 28 October–1 November 1995, Portland, Maine, USA. (proceedings)
- 93 Tacha, T. C. 1981. Behavior and taxonomy of sandhill cranes from mid-continental North
94 America. Dissertation, Oklahoma State University, Stillwater, USA. (use Thesis to denote
95 Master of Science or Master of Arts)
- 96 U.S. Fish and Wildlife Service [USFWS]. 1999. Endangered species database.
97 <<http://www.fws.gov/endangered/>>. Accessed 7 Oct 1999. (website)
- 98 (If you are unsure of the format, include as much information as possible so we can help.)
99

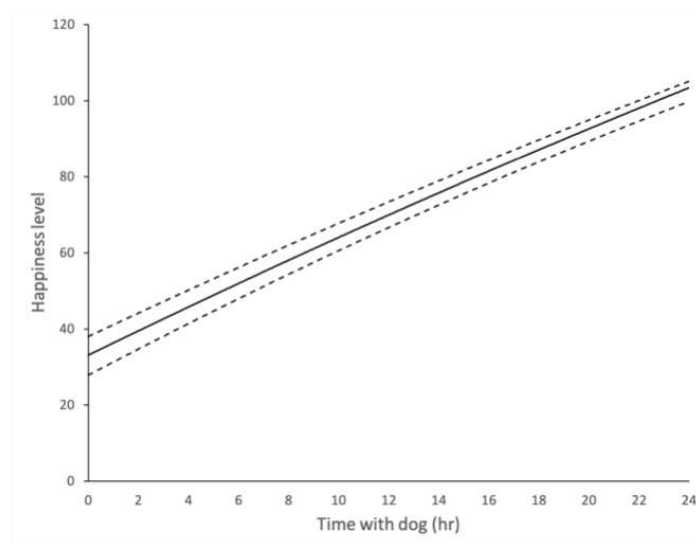
100 Figure Captions (Please note that figure files must be submitted in a separate document and may
101 not be included in the text file. Our example is included here for display only.)

102 Figure captions must allow the figure to be self-explanatory, describing the **variables displayed**,
103 **species studied**, and the **date(s)** and **location(s)** at which the data presented were gathered.

104 Define acronyms in tables and figures even if they have already been defined in the text. **Only**
105 **capitalize the first word** and proper nouns on axes labels and legends (e.g., Daily nest survival,
106 Black bear, Study area).

107

108 Figure 1. Relationship between predicted happiness level (index ranging from 0–120) and hours
109 spent per day with a dog based on a survey of 400 survey respondents in Gainesville, Florida,
110 USA, 2021. Dashed lines indicate 95% confidence intervals.



111

112 Tables

113 When possible, minimize the use of abbreviations, especially with long lists of variables (e.g.,
 114 use tree density rather than TR_DEN). Do not forget to define abbreviations and terms in each
 115 table title or as footnotes (e.g., AIC_c, K, ANOVA). Table titles should describe the **variables**
 116 **displayed, species studied**, and the **date(s)** and **location(s)** at which the data presented were
 117 gathered. For column- and row-headings, capitalize only the first word and proper nouns (e.g.,
 118 Number of nests), including model notation (e.g., Age + elevation + slope).

119

120 Table 1. Number of species found in each site type (by diet preference) in roadside surveys
 121 conducted in Tucson, Arizona, USA, 2018–2020.

122 **Use the Table function in Word (not an embedded picture) immediately following the table title.**

Site ^a	Animal group			
	Avian		Mammalian	
	Insectivorous	Carnivorous	Insectivorous	Carnivorous
Grassland or shrubs	5	3	2	5
Mixed forest	7	5	1	3
Wetland	8	7	5	8

123 ^aFor footnotes, use lower-case, Roman letters.

124

125

126

127

128 **APPENDIX A. TITLE OF THE APPENDIX**

129 The appendix will appear at the end of the typeset article. Do not include online-only supporting
130 information in the main document file (see section on [Supporting Information for details on what](#)
131 [can be included in supplemental files](#)).

132 **END OF TEMPLATE**

During submission of your manuscript and cover letter, you will also need the following:

1. Email addresses for all coauthors
2. [Data availability statement](#) (required at revision stage)
3. [Graphical abstract](#) (required at revision stage)



133 **You do not need to read further unless you have specific questions. If your manuscript**
134 **follows the short guidelines above, it is ready for submission. All other style points will be**
135 **addressed by the editors after acceptance.**
136
137

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SUBJECT MATTER DIFFERENCES AMONG JOURNALS

The Society publishes manuscripts containing information from original research that contributes to the scientific foundations of wildlife management. The Society defines wildlife as invertebrates, fish, amphibians, reptiles, birds, and mammals that are not domesticated; however, we discourage submission of manuscripts focused on fish species to avoid overlap with journals of the American Fisheries Society.

In general, *JWM* focuses on wildlife relationships that can lead to management and conservation recommendations, *WSB* covers evaluations of management actions, and *Wildlife Monographs* is an outlet for exhaustive studies on a single topic in wildlife science, management, or conservation. See below for a detailed description of acceptable subject matter for each journal. As a general rule, TWS is flexible on submission lengths. Authors should concentrate on succinct and clear writing to improve readability. *Journal* and *Bulletin* articles are typically <50 double-spaced pages including tables and figures. *Monographs* are typically >50 submitted pages.

JOURNAL OF WILDLIFE MANAGEMENT SUBJECT MATTER

Suitable topics include the results and interpretations of investigations into the biology and ecology of wildlife that can be used for management. The link to management of wildlife resources must be clear and concise. Manuscripts in *JWM* also address theoretical and conceptual aspects of wildlife management, including development of new approaches to quantitative analyses, modeling of wildlife populations and habitats, and other topics germane to advancing the science of wildlife management. Submissions to *JWM* fall into 8 main types: Research

Article, Note, Commentary, Review, Letter to the Editor, Invited Article, Special Section, and Book Review.

RESEARCH ARTICLES AND NOTES

Research Articles and Notes focus on aspects of wildlife that can assist management and conservation by providing life-history data, modeling, new analytical and quantitative approaches, theory, and new approaches to understand human dimensions. Notes are shorter than articles and may present new findings based on limited sample sizes or scale. Examples of subjects include investigations into the biology and ecology of wildlife with direct management or conservation implications (e.g., life histories, demography, population ecology, movement, habitat relations), new analytical and quantitative methodological approaches related to wildlife science (e.g., statistical, quantitative), human dimensions related to theory and research (e.g., new approaches to understand human dimension surveys), and economics related to theory and research.

COMMENTARY

Commentaries are essays that question values, priorities, precepts, and philosophical foundations under which wildlife management operates. These manuscripts can uncover dogma, false assumptions, and misguided policy, or stimulate thought and innovation. Commentaries are in response to an issue, movement, policy, or program that could affect wildlife or its habitat, and subject area can be broad. The manuscript must be well documented and prepared professionally.

REVIEW

Review articles are an opportunity to provide an in-depth overview of a particular topic. A

variety of topics are amenable to reviews including but not limited to analytical approaches, study design, effects of a management practice, effects of a disturbance, and the like. Review articles need not conform to typical format headings and can be flexible to accommodate the topic.

LETTER TO THE EDITOR

Letters to the Editor (i.e., Letters) are short contributions that address issues relevant to *JWM*.

Appropriate topics include comments on recently published manuscripts (and author responses to the comments) or on topics or methods relevant to *JWM* or wildlife management. Letters should be short (~10 typed pages) and consist of a short title, author name and address, text, and References if necessary. Letters are selected by the Editor-in-Chief (EIC) and are not typically subject to peer review, but they may be assigned to an Associate Editor for review or a recommendation. Letters are not subject to page charges.

INVITED ARTICLE

The EIC has the option to solicit Invited Articles that review and synthesize important topics that pertain to the scientific foundations of wildlife management. Invited Articles must include a Management, Conservation, or Research Implications section, are not necessarily subject to peer review, and are not subject to page charges.

SPECIAL SECTION

Special Sections are an opportunity to present a series of papers focused on a topic that is timely, relevant, and of interest to the readers of *JWM*. Typically, these sections consist of 4–8 papers that provide an in-depth presentation of a particular topic. Submit a brief prospectus outlining the

topic and proposed paper titles and authors to the EIC for consideration. All manuscripts submitted as part of a Special Section will undergo the same review process as regular journal articles and must meet journal standards (and page charges will apply).

BOOK REVIEW

Book Reviews provide a brief synopsis and commentary on a book relevant to some aspect of the field of wildlife science and management. Before submitting a Book Review, please contact the *JWM* Book Review Editor (Stephen Webb: slwebb@noble.org). Book Reviews are not subject to page charges.

WILDLIFE SOCIETY BULLETIN SUBJECT MATTER

The *Wildlife Society Bulletin (WSB)* is a journal for wildlife practitioners that effectively integrates cutting-edge science with management and conservation applications. Important policy and human-dimension issues, particularly those that focus on the integration of science, policy, and regulations, are also included. The *WSB* includes articles on contemporary wildlife management and conservation, education, administration, law enforcement, human dimensions, and review articles on the philosophy and history of wildlife management and conservation. Submissions to *WSB* fall into 8 main categories: Research Article, Emerging Research, Tools and Technology, Opinion, From the Field, Letter to the Editor, Special Section, and Invited Articles.

RESEARCH ARTICLE

Research Articles are the traditional wildlife science manuscripts published in the *WSB*. These are typically field studies and structured with Introduction, Study Area, Methods, Results,

Discussion, and, as appropriate, Management, Conservation, or Research Implications sections. Research Article papers published in the *WSB* bring forward examples of integrating wildlife science and management. Data in Research Articles should cover multiple years or seasons of collection and be suitable for inference beyond the study site.

EMERGING RESEARCH

Submissions in the Emerging Research category address new ways of approaching management actions or propose new conceptual models for understanding the implications of management. Articles in Emerging Research can include studies that are limited in spatial or temporal replication but highlight potential issues in wildlife science, conservation, and management. Emerging Research papers do not have Management Implications sections.

TOOLS AND TECHNOLOGY

Tools and Technology papers are typically brief and describe new techniques and technology or modifications of well-known techniques that may be of use to managers. Tools and Technology papers do not have Management Implications sections.

OPINION

Opinion articles combine original data with strong opinion regarding inferences from those data. The Opinion section allows authors the license to include strong opinions and perhaps even value-laden statements that are not usually found in traditional scientific papers. We believe that this adds value to the *Bulletin* and makes for interesting discussion among wildlife professionals.

FROM THE FIELD

While in the field collecting data or conducting data analyses, you may have a serendipitous flash of insight about something that is directly or tangentially relates to the project at hand. There might be a smattering of data that hint at a new research direction, or perhaps some outlying values that are actually real and not a function of entering wrong numbers in a spreadsheet. From The Field papers cover situations where you might not have enough data for a Research Article but do have enough information to support and share some new insight. Another aspect of From the Field articles is the introspection by veteran managers and conservationists by sharing insights gained over the course of their careers. We vigorously encourage such submissions.

LETTER TO THE EDITOR

Letters are short contributions that address issues relevant to *WSB*. Appropriate topics include comments on recently published manuscripts, frequently with responses from the original authors, or on topics or methods relevant to *WSB* or wildlife management. Letters should be short (~1,000 words) and consist of a short title, author name and address, text, and References if necessary. Letters are selected by the EIC and are not typically subject to peer-review, but they may be assigned to an Associate Editor for review or a recommendation.

SPECIAL SECTION

Special Sections consist of articles with a common topic or theme and add value to the *WSB*. Often, but not always, Special Sections are offshoots of sessions held during The Wildlife Society's annual meeting. Persons interested in coordinating a Special Section should contact the

editor with a brief synopsis of the proposed topic along with a list of proposed papers and corresponding authors. Do not proceed without agreement by the editor.

INVITED ARTICLES

Invited Articles represent an invitation by the editor for experts on a particular topic or issue related to applied wildlife science to publish a review or synthesis article that represents the state-of-the-art knowledge and understanding of the topic or issue. The purpose is to provide wildlife professionals with a foundational article on contemporary techniques that can be used for conservation planning, research initiation, and development of management strategies. Page charges are waived for Invited Articles.

WILDLIFE MONOGRAPHS SUBJECT MATTER

Wildlife Monographs publishes manuscripts containing information from original research that contributes to wildlife science. Suitable topics include investigations into the biology and ecology of wildlife and their habitat that have direct or indirect implications for wildlife management and conservation. These topics include information on wildlife habitat use, demographics, life-history, genetics, predator-prey relationships, space use, movements, modeling, behavior, and physiology. Emphasis is placed on how the research fits within the context of contemporary management and conservation issues and can inform wildlife practitioners.

Wildlife Monographs also considers extensive reviews, meta-analyses, long-term or interdisciplinary research, and invites contributions on timely special topics providing a meaningful new synthesis or research results on an appropriate subject. Manuscripts generally

will be >50 double-spaced pages, present a comprehensive examination of a subject, include an in-depth literature review and context, and provide a broad interpretation of concepts advancing wildlife science and management.

In addition to the format requirements in the template at the beginning of this document, *Monographs* should include the following elements (see a recent *Monograph* for an example):

1. After the English abstract and keywords, present an identical title and abstract in one additional language (choose from Spanish, French, German, or Chinese). If the author wishes, a second abstract in another language can be added. Do not use computerized translation software to produce the abstracts because the conversions are often inaccurate. Consult an expert fluent in English and the target language to create the abstract. This requirement can be completed after acceptance.
2. Following the abstract, provide a table of contents under the heading Contents in bold font center justified. The table of contents of the *Monograph* should be listed at the beginning of the Introduction. Every first-, second-, and third-level heading should be listed in the table of contents exactly as they appear in the text. For appendices, simply list Appendices excluding the titles. A solid line spanning the width of the page should separate the table of contents from the text below.

FORMAT

A manuscript must adhere to TWS guidelines before it will be approved and sent out for review (see [Short Guidelines](#) for template).

FORMATTING GUIDELINES

Upload the following files:

1. Cover letter
2. Text file arranged as follows: manuscript text, References, figure captions (**not figures**), tables, and appendices if applicable. Society journals will accept only .doc or .docx files for the main document.
3. Figure(s) compiled into one file or submitted in individual files. Label and mount figure parts (e.g., A and B) together into one figure as they are meant to appear in the typeset article and choose a horizontal presentation (page width) over a vertical arrangement. We accept figure files in only the following formats: .tif, .jpg, pdf, .doc, docx, .eps, and .ppt.

General guidelines

1. Double space all text except for the contact information at the top of the first page.
2. Do not justify the right margin.
3. Use Times New Roman font, 12-point type throughout the manuscript, including title, headings, and tables.
4. Do not use *italic* or **boldface** type for emphasis in text, tables, or figures. Under no circumstances should quotation marks or ‘scare quotes’ be used to highlight terms.
5. Maintain margins of 2.5 cm (i.e., 1 inch) on all sides of the page.

TITLE PAGE: RUNNING HEAD, TITLE, AND AUTHORS

The following guidelines apply to all text files. Single-space the following information in the upper left corner: date (update with each revision) and the corresponding author’s name, address, telephone, and e-mail. If the corresponding author’s email address changes following submission

of the manuscript, update the user profile on the ScholarOne website, and notify the editorial staff.

Type the running head (RH) on the first line following the correspondent's address. The RH is limited to 35 characters (including spaces). Left-justify the RH and capitalize the first word (e.g., Implanting transmitters in snakes). The RH is preceded by a dot (or raised period) and the last name(s) of ≤ 2 authors. For ≥ 3 authors, use the name of the first author followed by "et al." (e.g., Foster et al.). For example:

RH: Chamberlain et al. • Implanting transmitters in snakes in Ohio

The title follows the RH and is left-justified in bold font with the first word and proper nouns capitalized. The title identifies manuscript content and may not include abbreviations or acronyms. Titles should not exceed 15 words unless doing so forces awkward construction. Do not use scientific names in the title except for organisms that have easy to confuse common names, or lack them altogether.

Authors' names are left-justified. Each name is followed by the author's affiliation. The affiliation is usually where the author was employed during the study. Indent the second and subsequent lines of an author's address using the hanging indent function. In each address, use available United States Postal Service (USPS) abbreviations, zip codes, and the country (abbreviate USA, but spell out all others). Write out words like Street, Avenue, and Boulevard, but abbreviate directions (e.g., N and NW). Include the address after each author, even if multiple authors have the same address. Use footnotes to indicate current affiliation is different

from the one listed. Add a line for the corresponding author contact information (physical address and email) below the author names and affiliations using the heading **Correspondence**.

ABSTRACT

After the title page, begin with the word **ABSTRACT** (left-justified) in upper-case bold font.

The abstract text begins after a regular letter space on the same line and is one paragraph not exceeding one line/page of manuscript text (3% of length of text), including References. The abstract includes:

- 1) Research question or hypotheses tested. Identify the problem or hypothesis and explain why it is important. Indicate new data, concepts, or interpretations directly or indirectly used to manage wildlife.
- 2) Pertinent methods. State methods used to achieve the results summarized (keep the methods brief unless a new, greatly improved method is reported). **Include the study period and location.**
- 3) Results. Emphasize the most important results, whether or not they agree with your hypotheses.
- 4) Interpretation of results and their value. Explain how, when, where, and by whom data or interpretations can be applied to wildlife problems or contribute to knowledge of wildlife science.

GRAPHICAL ABSTRACT

On the submission site, you will find an entry field for your graphical abstract. Authors should submit a stand-alone image (required at revision stage), which may be one of the figures

submitted as part of the manuscript or a new figure, that synthesizes the findings or topic of the paper. The figure may also be a photograph but must be copyright free. The chosen graphic will be displayed in the online table of contents to convey the core message of your paper, alongside a short summary (in lay terms) highlighting the major findings of the paper. Your graphical abstract should be simple, colorful, and contain minimal text to attract readers. Your short abstract should consist of 2–3 sentences (about 60–80 words; max. 500 characters with spaces), summarizing the key results or implications presented in the paper. The image should be supplied as a TIFF or a PDF file, fit within the dimensions of 50 mm × 60 mm, and be fully legible at this size. Please note the graphical abstract will also be shared on the TWS publications social media channels.

KEYWORDS

Keywords follow the abstract. The phrase **KEYWORDS** (left-justified, upper-case bold font) is followed by a regular space and ≤10 keywords in alphabetical order, ending with a period.

Include essential words from the title and others that identify: 1) common and scientific names of principal organisms in the manuscript; 2) the geographic area, usually the state, province, or equivalent, or region if its name is well known; 3) phenomena and entities studied (e.g., behavior, populations, habitat, nutrition, density estimation, reproduction); 4) methods (only if the manuscript describes a new or improved method); and 5) other words not covered above but useful for indexing. For example:

KEYWORDS author, format, guidelines, instructions, manuscript, policy, style

TEXT PAGES

Number each line of the text continuously (i.e., do not restart numbering on each page).

HEADINGS

Reduce or eliminate the need for subheadings by writing clearly and logically. Avoid writing sections that consist of only one paragraph. Examples of the 3 heading types follow:

STUDY AREA

First-level heading: upper-case lettering, bold type, and flush left. Text follows flush left on the succeeding line.

Burrow availability hypothesis

Second-level heading: bold type, flush left, with first word capitalized. Text follows flush left on the succeeding line.

Assessment of available natural burrows

Third-level heading: regular type, flush left, with first word capitalized. Text follows flush left on the succeeding line.

MAJOR SECTIONS OF A MANUSCRIPT

The introduction to the manuscript does not include a heading. Articles include the following first-level headings: **ABSTRACT; KEYWORDS; STUDY AREA; METHODS; RESULTS; DISCUSSION; MANAGEMENT IMPLICATIONS, CONSERVATION IMPLICATIONS, or RESEARCH IMPLICATIONS** (author choice of implication headings; From the Field, Tools and Technology, and Emerging Research articles in *WSB* do not include this section); **ACKNOWLEDGMENTS; ETHICS STATEMENT; and REFERENCES**. It is not permissible to combine Study Area and Methods or Results and Discussion. Merging these

sections leads to superfluous wording, unnecessary discussion, and confusion. Most articles will include all major sections, but some sections may not be appropriate for all articles.

The introduction (no heading) starts below the **KEYWORDS** and contains a concise synthesis of literature specific to the manuscript's main topic. The end of the introduction should state clearly and concisely the objectives of the study, predictions, and the hypotheses tested. Do not summarize methods or results in the Introduction section.

Use past tense for **STUDY AREA** descriptions (e.g., average annual precipitation was 46 cm, vegetation was primarily grass). Exceptions include geological formations that have been present for centuries (e.g., mountains). **METHODS** should be brief and include dates, sampling schemes, duration, research or experimental design, and data analyses. Cite previously published methods without explanation. Identify new or modified methods and explain them in detail. Methods must be described in adequate detail for a reader to duplicate them if initiating a new study. Include thresholds for significance (e.g., $\alpha = 0.05$) or specific model selection criteria (e.g., $\Delta AIC < 2$, $\sum w_i > 0.9$) if applicable.

Present **RESULTS** in a clear, simple, concise, and organized fashion. Avoid overlapping text with information in tables and figures, but highlight the most important results in the text; do not explain analyses that should have been described in the Methods section. **Describe the value and magnitude of the biological effect rather than focusing on the results of statistical analyses.** That is, terms such as fewer or smaller tell us little, and stating that something was statistically different ($P < 0.01$) without providing the actual difference conveys little meaning to the reader. For example, stating, *A* ($\bar{x} = 43 \pm 3$ ha) was 25% larger than *B* ($P < 0.001$) conveys

more information than simply stating, *A* was significantly larger than *B*. Present Results in past tense (e.g., body mass loss occurred during winter).

The **DISCUSSION** provides an opportunity for interpreting data and making literature comparisons. Begin the Discussion by synthesizing your results with regard to your objectives and then relate your work to other literature and research. Systematic discussion of every aspect of research leads to unnecessarily long manuscripts; be concise and relate your findings directly to your overall project goal, objectives, and hypotheses as appropriate. Reasonable speculation and new hypotheses to be tested may be included in the Discussion. **Do not repeat results in this section.**

The next section can be titled **MANAGEMENT IMPLICATIONS, CONSERVATION IMPLICATIONS**, or **RESEARCH IMPLICATIONS** (author choice depending on study focus). It should be short (usually about 1 paragraph) and direct but explain issues important to management, conservation, or advancing wildlife science that are derived directly from or addressed in your results. Do not restate material from the Results or Discussion sections, and do not make recommendations that are beyond the scope of your study. Address specific wildlife research, management, or conservation opportunities or problems in this section. From the Field, Emerging Research, and Tools and Technology articles in *WSB* should not have a Management Implications section.

The **ACKNOWLEDGMENTS** (note preferred spelling) section appears immediately before References. This section should be brief and include 2 initials (when appropriate) and the last name of individuals cited (without affiliations). Acknowledgments should be straightforward

without ornate and qualifying adjectives or personal remarks. Begin with disclaimers (if any) and end with funding thanks. For example: “Portions of this manuscript have been extracted from Ratti and Ratti (1988) and Gill and Healy (1980) with permission of The Wildlife Society. This is Contribution 836, University of Idaho Forest, Wildlife, and Range Experiment Station. We thank G. A. Baldassarre, M. S. Boyce, C. E. Braun, H. E. Hodgdon, and R. L. Lee for review comments and contributions to this manuscript. G. C. White assisted with revision of the mathematics and statistics subsection. We thank the Gainesville Feist Society and Melanerpes Forever for funding this study.”

The **ETHICS STATEMENT** section appears below acknowledgments and should explicitly state that the study adhered to relevant regulations and guidelines regarding the ethics of animal welfare and include protocol numbers parenthetically. If the study involved humans (e.g., surveys), provide appropriate documentation that you obtained proper approval to perform research involving humans. (see **SECURING APPROPRIATE APPROVALS**)

REFERENCES

Also see: [Citing Literature in Text](#)

Type the References immediately following the Acknowledgments, and do not insert a page break (see [Appendix B](#) for specific examples). Double-space References and use hanging indents for second and subsequent lines of a citation. Spell out all words in the References (i.e., do not use abbreviations or acronyms). The following 3 exceptions are allowed in author and publisher locations: 1) Washington, D.C., 2) U.S. (e.g., U.S. Forest Service), and 3) USA. Spell out all author names for each citation instead of using dashes for authors in multiple citations.

In the References, alphabetize by authors' surname(s), regardless of the number of multiple authors for the same publication. Within alphabetical order, the sequence is chronological (see Appendix B [Multiple Citations for the Same First Author](#) for an example). If a reference has >10 authors, list the first 10 authors followed by et al.

Use title-case (not small caps) for all names in References, and place a comma between all names, even if there are only 2 (e.g., Schmidt, B. R., and J. Pellet). Use 2 initials (where appropriate) with one space between each initial. Only reverse the name order of the first author (e.g., Thogmartin, W. E., J. R. Sauer, and M. G. Knutson). For serial publications, show the issue number only if the pages of each issue are numbered separately. As in the text, spell out ordinal numbers (e.g., Third edition). Do not include words such as Publishing, Inc., or Company. Use the word Thesis to denote Master of Science (M.S.) or Master of Arts (M.A.), and use the word Dissertation for Doctor of Philosophy (Ph.D.). Do not write the total page number of books at the end of the citation. Otherwise, simply cite the product in text following the examples in [Citing Literature in Text](#) section below. For foreign language publications, note the language of publication at the end of the citation in brackets (e.g., [In Spanish.]).

FIGURES, TABLES, AND RICH MEDIA

On a new page following the References, compile figure captions (**not figures**) and tables.

Submit figures as a separate file(s). Submit only essential tables and figures. Do not submit tables if the information overlaps with information presented in the text, can be easily presented in the text with less journal space, or presents the same data in another table and a figure.

Number tables and figures independently. **Reference tables and figures parenthetically (Table 4, Figure 3) and avoid statements such as, “The results are shown in Tables 1–4.”**

Tables and figures must stand alone (i.e., be self-explanatory) and avoid reference to the text or other tables and figures. Accordingly, define relevant abbreviations and acronyms in each table and figure (except items that appear in [Appendix C](#)). When possible, minimize the use of abbreviations, especially with long lists of variables. The space saved is not worth the tedium for the reader trying to understand the table. **Table and figure titles must include the species or subject of the data studied and when and where (region or state and country) the data were collected.** In rare cases, titles or footnotes of tables and figures may be cross-referenced to avoid repeating long footnotes or the same data; however, this violates the self-explanatory rule and should be avoided. If a table includes a list of species, order species taxonomically and not alphabetically.

FIGURES

Begin figure captions on a new page immediately following the References. Figure captions tend to be longer than table titles because figures are not footnoted. The caption may be several sentences and include brief suggestions for interpreting the figure content. Like table titles, figure captions must allow the figure to be self-explanatory (do not include abbreviations without defining them in the caption), **describing the variables displayed and where and when data were collected.** Do not include statistical results in the caption. Label and mount figure parts (e.g., A and B) together into one figure. Beginning in 2021 TWS journals will be in single-

column format so for figures with multiple frames, page-width presentation is preferred to vertical arrangement.

Upload figures files separately (**do not include them in the main document**) and use the following guidelines to assure image quality is adequate. Pictures must have a reference scale if size is important. All image files must have a resolution of >300 dots per inch (dpi) at final typeset size. Only capitalize the first word and proper nouns on axis labels and keys. Use italic letters only where they are essential to the meaning, as in mathematical terms (see [Mathematics and Statistics](#) section and [Appendix C](#)). Identify arbitrary symbols in a figure key within the figure or in a note that is part of the caption.

TABLES

Do not prepare tables for small data sets, those containing many blank spaces, zeros, repetitions of the same number, or those with few or no significant data. Put such data or a summary of them in the text.

Table titles may differ, but we recommend this sequence: 1) name of the characteristic that was measured (e.g., mass, age, density), 2) measurement unit or units in parentheses (e.g., cm, individuals/ha, male:female, or %), 3) name of organism or other entity measured (e.g., of Canada geese), and 4) location(s) and date(s). Define all abbreviations used in the table title (e.g., AIC). We allow for listed standard abbreviations and symbols ([Appendix C](#)) in the table body without definition.

The lines in tables are called rules, and they should be used according to the following standards (see [Short Guidelines](#) for an example table):

1. None drawn vertically within the table.
2. Each table contains at least 3 rules – below the title, below the column headings, and at the bottom. Insert each as one continuous line. Do not use bold or extra-thick rules.
3. Use rules that straddle subheadings within the column heading.
4. None to show summation; use Total or equivalent in the row-heading.

Type main headings flush left, and indent their subheadings. For column- and row-headings, only capitalize the first word and proper nouns (e.g., Number of times detected in NV), and do not use bold font. In the data field, do not use dashes (often misused to mean no information) or zeros unless the item was measured, and 0, 0.0, or 0.00 correctly reports the precision (measurement). Similarly, respect digit significance in all numbers, particularly percentages. Do not use percentages where n is <26 , except for 1 or 2 samples among several others where n is >25 . Where the number of significant digits varies among data in a column, show each datum at its precision level (i.e., do not exaggerate precision). For P values only use 3 digits past the decimal, and do not list $P = 0.000$; the correct form is $P \leq 0.001$. Do not use naked decimal points in the data field (e.g., use 0.057 instead of .057).

Use lower-case Roman (not italic) letters for table footnotes. Place letters alphabetically in the following sequence: in the title, then left-to-right, and then down. The most common errors in tables are the use of undefined abbreviations (e.g., AIC_c , K) and incomplete titles.

EMBEDDED RICH MEDIA

The journals have the option for authors to embed rich media (i.e., video and audio) within their final article. These files should be submitted with the manuscript files online, using either the

Embedded Video or Embedded Audio file designation. If the video or audio includes dialogue, a transcript should be included as a separate file. The combined manuscript files, including video, audio, tables, figures, and text must not exceed 350 MB. Find full guidance on accepted file types and resolution [here](#). Ensure each file is numbered and cited in the text (e.g., Video 1, Video 2, Audio 1). Legends for the rich media files should be placed after the figure legends.

The content of the video should not display overt product advertising. Educational presentations are encouraged. Any narration should be in English, if possible. A typed transcript of any speech within the video or audio should be provided. An English translation of any non-English speech should be provided in the transcript.

All embedded rich media will be subject to peer review. Editors reserve the right to request edits to rich media files as a condition of acceptance. Contributors are asked to be succinct, and the Editors reserve the right to require shorter video or audio duration. The video or audio should be high quality (both in content and visibility or audibility). The video or audio should make a specific point; particularly, it should demonstrate the features described in the text of the manuscript.

It is the responsibility of the corresponding author to seek informed consent from any identifiable participant in the rich media files. Masking a participant's eyes, or excluded head and shoulders, is not sufficient. Please ensure that a consent form

(<https://authorservices.wiley.com/author-resources/Journal-Authors/licensing/licensing-info-faqs.html>) is provided for each participant.

APPENDICES

Appendices are different than online supporting information; they are essential to the manuscript and are typeset with the text. Include appendices in the text file after all figure captions and tables (see [Short Guidelines](#) template). Use first-level headings for Appendix titles. Appendices are presented at the end of the article and are used to add understanding to the manuscript without disrupting the flow of the text.

SUPPORTING INFORMATION

Supporting Information is made available online only and is manuscript information that adds depth to the manuscript **but is not essential to readers' understanding of the manuscript** (e.g., spreadsheets of raw data, code, in-depth tables and figures that are not essential to the objectives of the study (e.g., model selection results for a large list of unsupported models, results of preliminary analysis). Any methods or results pertaining to the objectives of the study must be included in the main text (i.e., do not use the supporting information document simply to shorten the text). All supporting information will be reviewed by the editors and content edited by journal staff. The publisher does not copyedit, typeset, or format supporting information; thus, the material must be ready for publication when the manuscript is submitted for review. Upload supporting information in Scholar One in a separate file and choose Supporting Information for review and online publication only from the file type drop-down menu. The file that you upload will be the exact file that readers will be able to download so use a file type that will be accessible to readers.

Reference the supporting information parenthetically in your manuscript. For example, “We created a project-cost worksheet to assist other researchers planning monitoring projects (Table S1, available in Supporting Information).” After the location has been established, simply refer to the table without the additional text.

Because supporting information is published separately from the manuscript, it needs to stand alone. List all references cited in the supporting information at the end of the file. References that only appear in the supporting information should not be listed in the References section of the manuscript. Arrange the file as follows:

Supporting Information

Date

Citation for your manuscript (e.g., Smith, L., and M. Jones. 2016. Southern ground hornbill nest survival. *Journal of Wildlife Management*)

Begin supporting information text here (table, equations, photo).

References

STYLE AND USAGE

Manuscripts with publishable data may be rejected because of poor writing style (e.g., long and complex sentences, superfluous words, unnecessary information, and poor organization). Most editors are patient with this problem and are willing to offer helpful suggestions. Reviewers, however, may be less tolerant of poor writing, which may result in negative reviews. Use a direct and concise writing style and minimize repetition among sections of your manuscript. Do not use one-sentence paragraphs. Many common problems may be avoided by use of a carefully

prepared outline to guide manuscript writing. Many problems can be corrected by having your manuscript critically reviewed by colleagues before submission for publication.

The most common error in manuscripts is use of passive voice. Use first person and active voice throughout the manuscript to avoid superfluous or unclear wording. For example, instead of writing “false absences were estimated” write, “we estimated false absences.”

NUMBERS AND UNIT NAMES

Use digits for numbers (e.g., 7, 45) unless the number is the first word of a sentence or is used as a pronoun (e.g., We conclude one would benefit from...), in which case the number is spelled out. Use numerals for 0 and 1 only when they are connected to a unit of measure, when they are used as an assigned or calculated value, or when they are part of a series or closely linked with numbers other than 0 and 1 (e.g., 0 of 4 subspecies; 2 applications instead of 1 ...). Otherwise, spell out zero and one (e.g., zero-based budgeting, on the one hand, one doctor). Indicate units after each item unless it is a range with an en dash (e.g., elevations ranged 3,000 m to 5,000 m or elevations ranged 3,000–5,000 m) and use standard abbreviations for measurement units that follow a number (e.g., 75%, 30 kg) unless the number is indefinite (thousands of hectares). Avoid using introductory phrases (e.g., a total of ...). Spell out ordinal numbers (e.g., first, second) in text and References, but use digits for cases such as 3-fold and 2-way. Convert fractions (e.g., 1/4, one-third) to decimals or percentages except where they misrepresent precision. Avoid presenting more than 3 digits past the decimal.

Hyphenate number-unit phrases used as adjectives (e.g., 3-m² plots and 3-year-old male) but not those used as predicate adjectives (e.g., plots were 3 m², males were 3 years old). Insert

commas in numbers $\geq 1,000$ (except for pages in books, clock time, or year dates). Do not insert a comma or hyphen between consecutive, separate numbers in a phrase (28 3-m² plots). Do not use naked decimals (i.e., use 0.05, not .05). When identifying items by number, use lowercase for names (e.g., plot 1, site 5, day 3). Use a slash (/) instead of per when describing rates or densities (e.g., 5 elk/km², 10 surveys/day).

TIME AND DATES

Use the 24-hour system: 0001 hours through 2400 hours (midnight). Date sequence is day month year, without punctuation (e.g., 4 March 2000). Do not use an apostrophe for plural dates (e.g., 1970s). Authors can use 3-letter abbreviations for months in parentheses, table bodies, and figures (e.g., 31 Mar 1947), but please ensure consistent usage throughout the manuscript.

MATHEMATICS AND STATISTICS

Use italic font for Roman letters used as symbols for quantities (e.g., *n*, *X*, *F*, *t*, *Z*, *P*, and \bar{x} ; [Appendix C](#)). Report degrees of freedom used in a statistical test as subscripts to the relevant test statistic (e.g., $t_2 = 1.45$). Insert symbols from the symbol directory in your word processing program as opposed to creating the symbol with keyboard functions (e.g., chi-square should appear as χ^2 [found in the symbol directory], as opposed to X^2). Use the minus sign from the symbols menu (−) to indicate minus and negative values instead of using the keyboard hyphen. Use times (×) to indicate multiplication or dimensions instead of using an asterisk (*) or a lowercase x. These mathematical symbols may also be copied and pasted from this document.

Insert a space on both sides of symbols used as conjunctions (e.g., $P > 0.05$) but close the space when symbols are used as adjectives (e.g., >20 observations). Where possible, report exact

probabilities ($P = 0.057$, not $P > 0.05$). A subscript precedes a superscript (X_i^3) unless the subscript includes >3 characters.

Avoid redundant use of the word significantly (e.g., write “the means differed [$P = 0.016$]” instead of “the means differed significantly [$P = 0.016$]”). Report results of statistical tests or central tendency as in the following examples: ($t_1 = 2.47$, $P = 0.013$), ($F_{3, 12} = 33.10$, $P = 0.01$), ($\chi^2_{10} = 22.1$, $P = 0.029$), or ($\bar{x} = 7.8$, $SE = 3.21$, $n = 46$). Present P -values < 0.001 as $P \leq 0.001$. Type the names of statistical programs or analytical methods (that are not acronyms) in capital letters (e.g., PROC LIFEREG, POPGEN, Program MARK).

EQUATIONS

Center long equations on their own line. Add spaces around operators such as = and + . If authors choose to number multiple equations in a paper, place the labels such as (1) or (2) on the right-hand margin with the equation centered. To cite these equations in the text, describe them as equation 1 in the sentence or as (eq. 1) parenthetically.

ABBREVIATIONS AND ACRONYMS

The use of numerous abbreviations and acronyms can detract from the flow of a paper. This is particularly the case when used for variables, agencies, and organizations. Use of abbreviations and acronyms should be done judiciously. Some abbreviations and acronyms are well established and may be used in the text without definition: metric units, DNA, ID, and certain measurement units ([Appendix C](#)). Define all other abbreviations or acronyms the first time you use them in the abstract and text (e.g., geographic information system [GIS], analysis of variance [ANOVA], Akaike’s Information Criterion [AIC]). Reestablish acronyms in the text that were first

established in the abstract. Do not start sentences with acronyms, and do not use an apostrophe with plural acronyms (e.g., ANOVAs). Abbreviate state names in parentheses except when they appear in the title of an academic institution or agency.

PUNCTUATION

Use a comma after the next-to-last item in a series of >2 items (e.g., red, black, and blue) and avoid the phrase “as well as” when you mean “and” (they are not synonyms). Write clearly enough so that you do not need to put quotation marks around words or phrases unless they are direct quotations. Follow these 3 rules to avoid common hyphenation errors: 1) a phrase containing a participle or an adjective is hyphenated as a compound when it precedes the word modified, and it is written without a hyphen when it follows the word modified (e.g., “a small-mammal study” and “a study of small mammals” are both correct but have a different meaning than “a small mammal study”); 2) a modifier containing a number is usually hyphenated (e.g., 2-km study area, a 6-year-old mammal); and 3) a 2-word modifier containing an adverb ending in -ly is not hyphenated (e.g., a carefully preserved specimen, spatially explicit model).

Avoid ambiguous use of nouns as modifiers (e.g., wolf researchers, women hunters). Use prepositions to avoid using nouns as adverbs (e.g., nesting by birds, instead of bird nesting; hunting with dogs, instead of dog hunting) and to avoid noun strings exceeding 3 words (e.g., radio-telemetry locations of dens in fall, instead of fall den radio-telemetry locations). Closing quotation marks are always placed after periods and commas, but they may be placed either before or after other punctuation. Brackets must appear in pairs, but the sequence varies. Use ([]) in ordinary sentences, use {[()]} in mathematical sentences, and use (()) only in special cases

such as chemical names. Brackets are used to enclose something not in the original work being quoted (e.g., insertion into a quotation or a translated title).

Only use a slash (/) to indicate divided by or per (e.g., avoid using and/or, shrub/scrub, 2017/2018). Use trademarks (i.e.,™, ®) at the first mention of a product name, where appropriate, and not thereafter (if introduced in the abstract, re-establish the information in the text).

ENUMERATING SERIES OF ITEMS

A colon must precede a series of numbered items unless the list is preceded by a verb or preposition. For presentation of a simple series, place numbers followed by a closing parenthesis only (see example in [Keywords](#) section) and separate phrases with commas or semicolons. When enumerating lengthy or complexly punctuated series, place the numbers at the left margin, with periods but no parentheses, and indent run-on lines (see [Measurement Units](#) section).

COMMON AND SCIENTIFIC NAMES

Do not capitalize common names of species except words that are proper names (e.g., Canada goose [*Branta canadensis*], Swainson's hawk [*Buteo swainsoni*], and white-tailed deer [*Odocoileus virginianus*]). Scientific names follow the first mention of a common name, except in the title. If a scientific name is established in the abstract, re-establish it in the text. Place scientific names following common names in parentheses and italic font with the first letter of the genus name capitalized and the species name in lower-case letters. Abbreviate genus names with the first letter when they are repeated within a few paragraphs, provided the meaning is

clear and cannot be confused with another genus mentioned in the manuscript with the same first letter; for example: We studied snow geese (*Anser caerulescens*) and Ross' geese (*A. rossii*).

Do not use subspecies names unless essential, and omit taxonomic author names. Use sp. (singular; not italicized) or spp. (plural) to indicate that the identity of species within a genus was unknown. For example: The field was bordered by willow (*Salix* sp.) and we trapped several species of mice (*Peromyscus* spp.). Use the most widely accepted nomenclature for all species mentioned in your manuscript (e.g., American Ornithological Society Check-list [checklist.aou.org]). Omit scientific names of domesticated animals or cultivated plants unless a plant is endemic or widely escaped from cultivation or is a variety that is not described adequately by its common name.

MEASUREMENT UNITS

Use Systeme Internationale d'Unites (SI) units and symbols ([Appendix C](#)). Place a space between numbers and units or symbols (e.g., 10 m, 80° C). Do not use hyphens between numbers and units unless you are using a number-unit phrase to modify a noun (e.g., correct usage: 12-mm mesh, 3-year study, 12 mm in diameter, and 2 mm wide; see section on [Punctuation](#)). Use English units (or, rarely, another type of scientific unit) in parentheses following a converted metric unit only in cases that may misrepresent the statistical precision of the original measurement or the correct interpretation of the results. These non-SI units are permitted:

1. Area: hectare (ha) in lieu of 10⁴ m²;
2. Energy: calorie (cal) in lieu of Joule (J);
3. Temperature: Celsius (C) in lieu of Kelvin (K);

4. Time: minute (min), hour (hr), day, in lieu of seconds (sec);
5. Volume: liter (L) in lieu of dm^3 .

CITING LITERATURE IN TEXT

In most cases reference citations parenthetically at the end of a sentence. Cite published literature by author and year, e.g., Jones (1980), Jones and White (1981). Use et al. for publications with ≥ 3 authors, e.g., (Jones et al. 1982). Do not separate the author and date by a comma but use a comma to separate a series of citations. Use chronological order for citations in a series, e.g., (Jones 1980, Hanson 1986). If citations in a series have >1 reference for the same author(s) in the same year, designate the years alphabetically (in italics) and separate citations with semicolons, e.g., (Peek et al. 1968*a, b*; Hanson 1981; White 1985, 1986). If citations have >1 reference for the same author in different years, designate the years chronologically after the author's name (e.g., Andrews 2001, 2005; Chamberlain 2002; Foster 2006). For citations in a series with the same year, use alphabetical order within chronological order (Brown 1991, Monda 1991, Rotella 1991, Allen 1995). Do not give >5 citations in the text to reference a specific issue or scientific finding. For a quotation or paraphrase, cite author, year, colon, and page number(s) (e.g., Krebs 1989:216).

Cite documents that are cataloged in major libraries, including theses and dissertations, as published literature. Published literature includes symposia proceedings and United States Government reports that have been widely distributed. Cite all other documents as unpublished data in the text only.

CITING UNPUBLISHED SOURCES IN TEXT

If references are not easily available or are not widely distributed, cite them in the text only.

Unpublished sources include reports that are not published or widely distributed, manuscripts that have not yet been accepted for publication, and personal communications and observations.

Avoid overusing unpublished information because these citations are not as credible as published literature and will make your text cumbersome. Do not use unpublished citations if you have peer-reviewed citations that support your statement(s). Cite unpublished references in the text as follows:

1. Personal communications: (J. G. Jones, National Park Service, personal communication);
2. Unpublished report: (D. F. Timm and E. J. Jones, North Carolina State University, unpublished report);
3. Unpublished data (including manuscripts in review): (D. E. Brown, Arizona Game and Fish Department, unpublished data).

Always include the affiliation in the first citation, even if citing unpublished data or personal observation of one of the authors, but do not repeat the affiliation in subsequent references (e.g., J. G. Jones, personal communication). Do not list >2 authors for an unpublished source.

A manuscript accepted for publication is cited as a published manuscript in the text using the anticipated publication year. In the References section, show the year after the name(s) of the author(s) and in press after the volume number. Do not cite manuscripts that are in review; use the unpublished style listed above. Refer to detailed instructions for References style ([Appendix B](#)).

CITING EQUIPMENT AND STATISTICAL SOFTWARE

For field equipment, note the manufacturer name and location parenthetically the first time you mention the equipment in the text (e.g., Advanced Telemetry Systems, Isanti, MN, USA).

Inclusion of information for purchasing equipment or software is inappropriate and not permitted.

Cite software in References as the software manual or an affiliated publication describing the function of the program if available, e.g., “...Program MARK (White and Burnham 1999).” For software without an associated author, in-text citations can be used to include the software company (as in equipment above) immediately following the first use of the statistical product name (e.g., SAS Institute, Cary, NC, USA; Esri, Redlands, CA, USA). To cite R, use the year of the version used, e.g., “...using R (R Core Team 2020),” and add it to the References section as R Core Team. 2020. R: a language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. For R packages, check the citation field on the R package CRAN page for publication information; if there is not an associated publication, cite as in the following example: Kranstauber, B., M. Smolla, and A. K. Scharf. 2020. move: visualizing and analyzing animal track data. Version 4.0.6. <https://cran.r-project.org/web/packages/move/index.html>.

PUBLICATION PROCESS

SUBMISSION PROCESS

The Society journals accept only manuscripts submitted electronically via Scholar One Manuscripts (S1M). You can register for an account (which will give you a homepage in S1M),

log in to an existing account (with S1M login or ORCID), submit a manuscript for review, and track the progress of your manuscript at <http://mc.manuscriptcentral.com/jwm/> for *JWM*, <https://mc.manuscriptcentral.com/wm> for *Monographs*, and <https://mc.manuscriptcentral.com/wsb> for *WSB*. Before submitting a manuscript, see instructions on how to use S1M ([Appendix A](#)).

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COVER LETTER

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A list of example citations follows.

BOOKS: GENERAL FORMAT

Note: If the state appears in the publisher or agency name, do not repeat it after the city.

Kleinbaum, D. G., L. L. Kupper, A. Nizam, and K. E. Muller. 2008. Applied regression analysis and other multivariable methods. Fourth edition. Duxbury, Belmont, California, USA.

Miller, K. V., and L. Marchinton. 1995. Quality whitetails: the why and how of quality deer management. Stackpole, Mechanicsburg, Pennsylvania, USA.

BOOKS: MORE THAN ONE PUBLISHER

Sowls, L. K. 1955. Prairie ducks: a study of their behavior, ecology, and management. Stackpole, Harrisburg, Pennsylvania, and Wildlife Management Institute, Washington, D.C., USA.

BOOKS: MORE THAN ONE VOLUME

Palmer, R. S. 1976. Handbook of North American birds. Volume 2. Yale University Press, New Haven, Connecticut, USA.

BOOKS: EDITOR AS AUTHOR

Temple, S. A., editor. 1978. Endangered birds: management techniques for preserving threatened species. University of Wisconsin Press, Madison, USA.

BOOKS: REPRINT

Leopold, A. 1933. Game management. 1946, Reprint. Charles Scribner's Sons, New York, New York, USA.

BOOKS: CHAPTER

Zeleny, L. 1978. Nesting box programs for bluebirds and other passerines. Pages 55–60 in S. A. Temple, editor. *Endangered birds: management techniques for preserving threatened species*. University of Wisconsin Press, Madison, USA.

Gutiérrez, R. J., A. B. Franklin, and W. S. LaHaye. 2020. Spotted owl (*Strix occidentalis*). Version 1.0 in A. Poole and F. Gill, editors. *Birds of the world*. Cornell Lab of Ornithology, Ithaca, New York, USA.

COURT CASES

Cite complete title and year of case in text only.

FOREIGN LANGUAGE PUBLICATIONS

Angulo, E. 2003. Factores que afectan a la distribución y abundancia del conejo en Andalucía. Dissertation, Complutense University, Madrid, Spain. [In Spanish.]

GOVERNMENT PUBLICATIONS

Lull, H. W. 1968. *A forest atlas of the Northeast*. U.S. Forest Service, Northeast Forest and Experiment Station, Upper Darby, Pennsylvania, USA.

GOVERNMENT PUBLICATIONS: PART OF A NUMBERED SERIES

Anderson, D. R. 1975. Population ecology of the mallard: V. Temporal and geographic estimates of survival, recovery, and harvest rates. U.S. Fish and Wildlife Service Resource Publication 125, Washington, D.C., USA.

GOVERNMENT PUBLICATIONS: AGENCY AS AUTHOR

National Research Council. 1977. *Nutrient requirements of poultry*. Seventh edition. National Academy of Science, Washington, D.C., USA.

Note: Cite in text as National Research Council (1977) or parenthetically as (National Research Council 1977).

JOURNALS: GENERAL FORMAT

Note: Issue numbers are included only if the pages of each issue are numbered separately. See PLoS ONE example below for journals with e-locators rather than page numbers.

Bélisle, M., and A. Desrochers. 2002. Gap-crossing decisions by forest birds: an empirical basis for parameterizing spatially-explicit, individual-based models. *Landscape Ecology* 17:219–231.

Cox, W. A., F. R. Thompson III, B. Root, and J. Faaborg. 2012. Declining brown-headed cowbird (*Molothrus ater*) populations are associated with landscape-specific reductions in brood parasitism and increases in songbird productivity. *PLoS ONE* 7:e47591.

Miller, M. R. 1986. Molt chronology of northern pintails in California. *Journal of Wildlife Management* 50:57–64.

JOURNALS IN PRESS: YEAR AND VOLUME KNOWN (BUT NO PAGE NUMBERS OR E-LOCATOR)

Polasik, J. S., M. A. Murphy, T. Abbott, and K. Vincent. 2016. Factors limiting early life stage survival and growth during endangered Wyoming toad reintroductions. *Journal of Woodpecker Ecology* 80:in press. doi:10.1002/jwmg.1031.

JOURNALS IN PRESS: YEAR AND VOLUME UNKNOWN

Note: Manuscripts in review may not be included in the References.

Giudice, J. H., and J. T. Ratti. In press. Biodiversity of wetland ecosystems: review of status and knowledge gaps. *Bioscience*.

MULTIPLE CITATIONS FOR THE SAME FIRST AUTHOR

Note: List in alphabetical order by second author (then third, fourth, ...), then chronological for identical authorship. Order *a* and *b* as they appear in the References not the order they appear in text.

Peek, J. M. 1970. A review of wildlife management. Prentice-Hall, Englewood Cliffs, New Jersey, USA.

Peek, J. M., and A. L. Lovaas. 1968. Differential distribution of elk by sex and age on the Gallatin winter range, Montana. *Journal of Wildlife Management* 32:553–557.

Peek, J. M., A. L. Lovaas, and R. A. Rouse. 1968*a*. Population changes within the Gallatin elk herd, 1932–1965. *Journal of Wildlife Management* 31:304–316.

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Peek, J. M., R. A. Rouse, and R. L. Smith. 1968*b*. Elk survival in a fragmented landscape. *Journal of Wildlife Management* 31:1–5.

NEWSPAPER, NEWSLETTER, AND MAGAZINE ARTICLES

Associated Press. 1997. Feathers could fly over dove hunting. *Columbus Dispatch*. 28 December 1997; section E:15.

Eisler, P. 1996. Voters to get a shot at hunting laws. *USA Today*. 25 April 1996; section A:4.

Hogan, M. 1997. Political season as important as hunting season. *Safari Times* 9(8):18.

Jones-Jolma, D. 1993. The fight to reform trapping in Arizona. *Animals' Agenda*. March–April:20–24.

Note: Citing from newspapers, newsletters, and magazines is discouraged and is only acceptable in certain rare circumstance (e.g., in manuscripts dealing with public perceptions).

SOFTWARE PACKAGES

R Core Team. 2020. R: a language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria.

Kranstauber, B., M. Smolla, and A. K. Scharf. 2020. move: visualizing and analyzing animal track data. Version 4.0.6. <https://cran.r-project.org/web/packages/move/index.html>.

Note: For more details, please see [Citing Equipment and Statistical Software](#).

SYMPOSIA AND PROCEEDINGS: COMPLETE VOLUME

DeGraaff, R. M., technical coordinator. 1978. Proceedings of workshop on management of southern forests for nongame birds. U.S. Forest Service General Technical Report SE-14, Washington, D.C., USA.

SYMPOSIA AND PROCEEDINGS: INDIVIDUAL ARTICLE

Dickson, J. G. 1978. Forest bird communities of the bottomland hardwoods. Pages 66–73 in Proceedings of workshop on management of southern forests for nongame birds. R. M. DeGraaf, technical coordinator. U.S. Forest Service General Technical Report SE-14, Washington, D.C., USA.

SYMPOSIA AND PROCEEDINGS: PART OF A NUMBERED SERIES

Palmer, T. K. 1976. Pest bird control in cattle feedlots: the integrated system approach. Proceedings of Vertebrate Pest Conference 7:17–21.

SYMPOSIA AND PROCEEDINGS: COMPLETE VOLUME (NOT PART OF A NUMBERED SERIES)

McAninch, J. B. 1995. Urban deer: a manageable resource? Proceedings of the symposium of the 55th Midwest Fish and Wildlife Conference. North Central Section of The Wildlife Society, 12–14 December 1993, St. Louis, Missouri, USA.

SYMPOSIA AND PROCEEDINGS: INDIVIDUAL ARTICLE (NOT PART OF A NUMBERED SERIES)

Stout, S. L., and R. Lawrence. 1996. Deer in Allegheny Plateau forests: learning the lessons of scale. Pages 92–98 in Proceedings of the 1995 Foresters Convention. Society of American Foresters, 28 October–1 November 1995, Portland, Maine, USA.

THESES AND DISSERTATIONS

Breitwisch, R. J. 1977. The ecology and behavior of the red-bellied woodpecker, *Centurus carolinus* (Linnaeus; Aves: Picidae), in south Florida. Thesis, University of Miami, Coral Gables, Florida, USA.

Tacha, T. C. 1981. Behavior and taxonomy of sandhill cranes from mid-continental North America. Dissertation, Oklahoma State University, Stillwater, USA.

WEB CITATIONS

Council of Biology Editors [CBE]. 1999. CBE homepage. <<http://www.councilscienceeditors.org>>. Accessed 7 Oct 1999.

National Oceanic and Atmospheric Administration [NOAA]. 2005. National Weather Service internet services team. Monthly precipitation for Reno, Nevada. <http://www.wrh.noaa.gov/rev/hydrology/monthly_precip.php>. Accessed 23 Aug 2005.

APPENDIX C. OPTIONAL ABBREVIATIONS FOR TABLES, FIGURES, AND PARENTHETIC EXPRESSIONS

We allow abbreviation of the following terms when used within parentheses, table bodies, and figures (not table titles and figure captions unless used parenthetically). Abbreviate all items with an asterisk in the text when they appear immediately after or before a number, but do not abbreviate other listed terms in regular text. Authors do not need to define terms listed in this table; however, all additional abbreviations must be defined the first time they appear in the text.

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Calorie	cal*	Minimum	min.
Celsius	C*	Minute	min
Chi-square	χ^2	Month names	Jan, Feb...
Confidence interval	CI	More than, greater than	>*
Confidence limit	CL	Multiple correlation	R^2
Correlation, simple	r	Parts per billion	ppb*
Determination, multiple	R^2	Parts per million	ppm*
Determination, simple	r^2	Percent	%*
Degrees of freedom	df	Population size	N
Diameter, breast height	dbh	Probability ^a	P
Directions	N, S, NE, SW	Sample size	n
Equation(s)	eq(s)	Sample mean (of x)	\bar{x}
Fewer than, less than	<*	Second	sec
F ratio	F	Spearman rank correlation	r_s
Gram	g*	Standard deviation(s)	SD
Hectare	ha*	Standard error(s)	SE
Hour(s)	hr	Student's t	t
Joule	J*	Temperature	temp
Kilocalorie	kcal*	Variation	CV
Liter	L*	Versus	vs.
Logarithm, base e	ln or log _e	Volt	V*

Logarithm, base 10	\log_{10}	Volume: liquid, book	vol, Vol.
Maximum	max.	Year(s)	yr
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