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RH: *WSB* manuscript guidelines • Andrews and Leopold

### **Guidelines for authors and reviewers of *Wildlife Society Bulletin* manuscripts<sup>1</sup>**

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**Abstract:** These guidelines are an update and revision of *Wildlife Society Bulletin guidelines for manuscripts* by Reidel and Crowder (1998). This paper presents details on policies of the *Wildlife Society Bulletin* and describes procedures for submitting, reviewing, and editing manuscripts. Guidelines for subject matter begin on page 2; a description of the reviewing and editing process is presented on pages 6–7; and details for format and style begin on page 7. Appendices are included for standard abbreviations.

**Key words:** format, guidelines, manuscript, policy, style

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<sup>1</sup> 2000 Revision of *Guidelines for authors and reviewers of Wildlife Society Bulletin manuscripts*. The Wildlife Society, Bethesda, Maryland, by Suzanne Riedel and Heather Crowder. These guidelines are typed in proper format for a manuscript submitted to the *Wildlife Society Bulletin* with the exception of line spacing (should be double) and footnotes (not permitted except in tables).

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Publishing a professional paper proceeds most smoothly if authors understand the policy, procedures, format, and style of the outlet to which they are submitting a manuscript. General guidelines for papers submitted to the *Wildlife Society Bulletin (WSB)* appear near the back of each issue. In updating *Guidelines for authors and reviewers of Wildlife Society Bulletin manuscripts*, Andrews and Leopold modified *Wildlife Society Guidelines for manuscripts* by Riedel and Crowder (1998), many sections of which remain intact.

## General policy

### Submitting the manuscript

Authors should submit **4 stapled** copies of a manuscript and a letter of transmittal indicating the paper is submitted for exclusive consideration by *WSB*. Without the "exclusive consideration" statement, the Editor will not initiate review. The statement ensures that data and findings have not been published previously or submitted elsewhere for simultaneous consideration. A paper is considered published if it 1) appears in a serial publication abstracted by *Biological Abstracts* or a similar reference volume, 2) appears in a book (including conference proceedings) printed in >500 copies and widely distributed to libraries, or 3) has been published as part of a numbered series by an agency. These guidelines for previous publication are flexible in certain instances, such as technical analyses of findings published previously for lay audiences. Kendall (1981) elaborated on the seriousness of dual publication; *WSB* editors subscribe to his standards.

If any portion of the manuscript has been published or reported elsewhere, furnish 4 copies of each report or publication. If the manuscript relates to but does not duplicate other publications or manuscripts by the same author(s), send 4 copies of each to assist reviewers and editors in assessing the submitted manuscript.

Theses (M.S.) and dissertations (Ph.D.) do not constitute prior publication and need not be mentioned in the cover letter, but they should be cited in the manuscript (see *Literature cited style*, page 15). Similarly, brief abstracts of talks given at meetings do not constitute prior publication. Generally, unpublished reports required by sponsors and not distributed as part of a numbered series (or in other ways that might result in accession by libraries) do not constitute prior publication. Most symposia proceedings are considered publications; however, editors may decide these resources on a case-by-case basis. Authors should provide information that bears on ethical and copyright considerations (CBE Style Manual Committee 1994:599–600) and other information that might facilitate review and editing.

The letter of transmittal also should include the author's stated preference for the manuscript to be considered as either a peer-edited or a peer-refereed paper (see *Reviewing and editing* [pages 5–7] for distinctions between the 2 types of articles).

## Subject matter

The *WSB* was created in 1973 as the "management journal" of The Wildlife Society (TWS). The stated policy (see inside back cover, volumes 1–6[2]) was to publish "original papers on all aspects of management, research, administration, law enforcement, education, and philosophy related to wildlife...." A flexible format was established to encourage speculative writing (*TWS News* 1972, Nos. 138, 141). This policy was modified in 1978 to read "original

manuscripts on all aspects of management, law enforcement, education, economics, administration, philosophy, contemporary problems, and other topics related to wildlife... (*WSB*, volumes 6[3]–present). The publication has evolved, within the framework of stated policy, from a bulletin to a journal. Standards for quality are no less than for *The Journal of Wildlife Management (JWM)*, but flexibility in subject matter and presentation make *WSB* distinct.

### Articles

The following subject matter areas are appropriate for peer-refereed and peer-edited articles in *WSB*:

1. *Management*. These articles should describe the effects of specific practices or policies on populations of animals or plants. Examples include 1) effects of agriculture, livestock, forest, or range management practices; 2) effects of practices directed toward wildlife or its habitat, such as supplemental feeding, food plots or food plantings, cover plantings, prescribed burning, brush or tree canopy reduction, soil disturbance, and habitats created by humans; 3) methods of reducing damage caused by wildlife, including translocation, aversive conditioning, population reduction, chemicals, scare devices, and related practices; 4) tests of harvest regulations or procedures or effects of harvest management on populations; and 5) effects of private or governmental policy on wildlife.
2. *Techniques*. Techniques papers should report a significant evaluation of, or improvement upon, techniques used frequently in management (e.g., counting or surveying populations to determine effects of management; sexing, aging, capturing, and handling wildlife).
3. *Contemporary issues*. This category offers great flexibility and features articles that relate to major, current impacts of human activities on wildlife or its habitat. Contributions on political or legal issues, special topics in wildlife management, environmental impacts, refinement of state or federal natural resource programs or policies, regional or national surveys of wildlife management programs or policies, social movements affecting wildlife management, and related topics are welcomed.
4. *Law enforcement*. Papers that detail practices, techniques, and procedures of wildlife law enforcement and their influence on human and wildlife populations are encouraged.
5. *Education*. *WSB* accepts articles that address education of natural resource stakeholders, hunter education, university curricula, and related topics.
6. *Economics*. Articles that discuss resource economics, cost effectiveness of management programs or practices, economic values of wildlife or outdoor experiences, and related topics are welcomed.
7. *Sociology or psychology*. *WSB* is an important outlet for papers discussing sociology, values, attitudes, perceptions, and psychology of natural resource stakeholders and managers.
8. *Administration*. Articles in this category should deal with administration of wildlife programs or agencies; methods, examples, and application of administrative policy or policy development; local, state, or regional planning; and related topics.
9. *Philosophy*. Papers that address the principles, logic, and ethics under which wildlife managers and the profession operate are welcomed.
10. *Reviews*. Papers that review subject matter consistent with categories 1–9 above are especially encouraged.

11. *Wildlife software*. This feature provides for the description of computer software that has application to wildlife management and research. Contributors must submit their software product and documentation to the Software Editor (see a recent issue of *WSB* or contact Editor for name and address). The Software Editor solicits peer-reviews of software before accepting a description of the product for publication.

### Departmental submissions

See *Format for departments* on page 9 for instructions for formatting departmental submissions. Other departments may be created or changes made to existing departments as the *Bulletin* evolves.

1. *In My Opinion*. *In My Opinion* articles are essays that question values, priorities, precepts, and philosophical foundations under which wildlife management operates. These articles can uncover dogma, false assumptions, and misguided policy or stimulate thought and innovation. The Editor may appoint a peer-editor or accept *In My Opinion* essays without peer-review.
2. *Commentary*. Commentaries are of 2 types: reaction to a previous article in *WSB* or a response to an issue, movement, policy, or program that could impact wildlife or its habitat. In either case, the manuscript must be well documented and prepared professionally. As with *In My Opinion* papers, the Editor may accept *Commentary* submissions with or without peer-review. The purpose of this feature is to get important information in print in a timely fashion. Such articles may appear as a *Letter to the Editor* or as a *Head to Head* piece.
3. *From the Field*. *From the Field* articles are essentially a brief note. They may pertain to any subject discussed on pages 3–4. They are distinct from a feature article in that they may not exceed 5 total published pages, have no abstract, and do not contain photos except in the case of photos or diagrams demonstrating a new technique or new equipment. *From the Field* articles would generally consist of ancillary but noteworthy observations relevant to natural resource managers and wildlife biologists.
4. *Student Voices*. *Student Voices* articles either discuss issues of particular relevance to students within the natural resources field or are award-winning or otherwise outstanding student authored essays.
5. *Obituaries*. Before submitting obituaries to the Editor, send a letter of intent to the Executive Director, The Wildlife Society, 5410 Grosvenor Lane, Bethesda, MD 20814. Obituaries are published only for members of The Wildlife Society, with few exceptions. All obituaries must be approved by the Executive Director prior to submission to the Editor.
6. *Book Reviews*. Book reviews provide a brief synopsis and commentary on a book relevant to some aspect of the natural resources field.

### Replication of treatments

Hurlbert (1984) pointed out that field researchers frequently have misused inferential statistics because treatments were not replicated. However, because of the nature of field research, true replication sometimes will not be feasible. Guthery (1987) presented guidelines for authors and reviewers of manuscripts based on unreplicated treatments.

## Reviewing and editing

Upon receipt, the editorial staff examines a manuscript to determine if it is in proper style and format and if the subject matter is appropriate. If style and format are seriously flawed, the paper will be returned for revision before being sent to referees. If subject matter is inappropriate, the Editor will return the paper to the author with an explanatory letter.

### Peer-refereed manuscripts

The Editor assigns peer-refereed manuscripts that have been accepted for review to an Associate Editor (AE) and 2 qualified referees to review the paper. The Editor considers expertise, affiliation, geographic location, date of last review, and performance on previous reviews when selecting referees.

Referees are called prior to mailing manuscripts and asked to complete their review within 6 weeks. If they are not able to review the manuscript in this period of time, an alternate reviewer is selected. Despite these measures, it is sometimes necessary to replace delinquent reviewers. It often takes >2 months before the AE receives a complete set of reviews.

Occasionally, the Editor or AE judges that referees' comments reveal biases, lack objectivity, are illogical, or otherwise lack merit. In such cases, the Editor or AE may proceed with revision despite negative comments from 1 or 2 referees. A second opinion from referees who recommended rejection also may be requested.

Manuscripts returned to authors for revision must be revised and returned to the AE within a reasonable deadline set by the AE or the manuscript will be withdrawn from the review process, requiring resubmission of the manuscript for further consideration. All materials sent to the authors for revision (e.g., marked up copies of earlier drafts) must be returned to the AE with the completed revision. Once a completed revision is returned, the revised manuscript is reviewed again by the AE and either rejected or returned to the Editor with a recommendation to accept the manuscript for publication. Sometimes the revision process requires several iterations before the AE makes a final decision.

### Peer-edited manuscripts

The Editor assigns manuscripts that have been accepted for review in the peer-edited category to an Editorial Panel Member (EPM). The Editor considers areas of expertise, affiliation, geographic location, date of last review, and performance on previous reviews when selecting EPMs.

After completing his or her review, the EPM returns the manuscript to the Editor with comments and a recommendation to either accept or reject the manuscript. In some instances, the Editor may seek additional input on the manuscript from another EPM. Upon careful review of the manuscript and consideration of all EPM comments and recommendations, the Editor makes a final decision to accept or reject the paper.

### Acceptance and rejection policies

Final acceptance of manuscripts is decided by the Editor. The Editor bears final responsibility for the value and quality of materials that appear in *WSB* and makes decisions accordingly. These decisions may differ from referees' comments seen by authors and recommendations made by referees, including the AE. In rare instances, the Editor's decision to accept or reject a manuscript will not agree with the recommendation made by an Associate Editor.

In rendering a decision, the Editor evaluates the manuscript and comments of the review team. The following are some of the problems that typically result in rejection: 1) flaws in design or logic that make the results invalid, biased, or questionable; 2) failure to contribute new knowledge; 3) trivial subject matter; 4) previous publication of the same or closely related material; 5) subject matter of local rather than regional, national, or international interest; and 6) poor organization and presentation.

The author of a rejected manuscript may feel that referees' comments support publication and that the editorial decision was wrong. The author should realize that the Editor receives 2 sets of comments from each referee, one open and one confidential. The confidential evaluation may reveal weaknesses not mentioned in comments seen by the author. One referee may have discovered weaknesses missed by the other referees. Further, the Editor may identify problems missed by both referees and the AE.

*Appeal and resubmission.* The author may question the reasons for rejection by writing the Editor, stating his or her case, and asking for reconsideration. Reconsideration of a rejected manuscript requires a convincing rebuttal letter from the author(s). Authors should not revise and resubmit the manuscript without writing first. A letter requesting reconsideration saves time for the Editor and the author.

*Accepted manuscripts.* Final versions of manuscripts accepted for publication must be submitted as 2 hard copies and an electronic copy on diskette as Microsoft Word or Wordperfect documents (see *Tables and figures* for further instructions on electronic submissions other than text). Accepted manuscripts must be returned to the editorial office within a reasonable deadline set by the Editor. After the deadline, the authors will be notified that the manuscript will be rejected and the file will be officially closed unless a revision or suitable explanation is received within 2 weeks. After 2 weeks, the manuscript is rejected if there is no response from the authors.

*Page proofs.* The final production stages of the Bulletin are handled at TWS headquarters in Bethesda, Maryland. Page proofs of each paper are created using a desktop publishing system and sent to each corresponding author. By this time, press deadlines are fast approaching and author corrections to page proofs are urgently needed, preferably within 48 hours of their receipt. Corrections should be e-mailed, faxed, phoned in, or sent by overnight or 2-day delivery, depending on how complicated they are. It is important that authors clearly communicate their recommended changes; mark proofs clearly or describe changes in detail. Make only essential changes; in most cases, authors must pay costs of substantive corrections to the final, approved manuscript.

## **Page charges and copyrights**

### **Page charges**

Current policies regarding page charges are explained to authors after a manuscript is accepted for publication in a page charge agreement form that must be completed and signed before the paper can be scheduled for publication. Page charges may change annually. In 1999, they were \$80 per page. Page charges are waived for TWS members publishing articles of  $\leq 2$  pages and for certain solicited manuscripts. Authors also are required to pay for changes made to page proofs, except for errors made in editing or electronic processing of the manuscript.

## Copyright

If a manuscript not in the public domain is accepted for publication, authors or their employers must transfer copyright to *TWS*. Publications authored by federal government employees are in the public domain. Manuscript submission implies entrusting copyright (or equivalent trust in public-domain work) to the Editor until the manuscript is either rejected, withdrawn, or accepted for publication. If accepted, *TWS* retains copyright.

## Format and style

Authors should follow the style and format of *WSB*. Editors and reviewers expect proper style and format and may be distracted or irritated when a manuscript is flawed in this regard.

## Length of articles

*WSB* considers articles of any length not likely to exceed 15 pages in print (about 35 manuscript pages, including tables and figures). Authors should submit articles of >35 typed pages to *Wildlife Monographs*. Articles submitted for peer-edited review should not exceed 25 manuscript pages.

## Page format

### *General guidelines.*

1. Double space throughout the manuscript, including title, authors' addresses, text, long quotations within text, literature citations, table footnotes, table titles, table bodies, and figure titles. The editorial staff must make numerous marks on a manuscript before sending it to the printer and double spacing creates room for these editorial comments.
2. Do not break (hyphenate) words on the right margin. Breaks on the right margin can lead to confusion over compound modifiers and dashes that could cause an inappropriate word to appear in print.
3. Do not justify the right margin because it creates awkward spacing, potentially causing confusion and lost time for the editorial staff.
4. Use Times New Roman font, 10- or 12-point type throughout the manuscript, including title and headings. Times New Roman is preferred because some typographical and mathematical symbols are difficult to distinguish in Courier and other fonts.
5. Italicize words or symbols, such as scientific names and mathematical symbols, that should appear italicized in print. Do not use italic type for emphasis.
6. Use boldfaced type only for the title, first-, and second-level headings. Do not use bold in text for emphasis. Third level headings should be indented and italicized, not boldfaced.
7. Maintain margins of about 2.5 cm (1 inch) on all sides of the page. The 2.5-cm margins allow for notes between reviewer and author and between Editor and printer.
8. Do not submit copy from draft printers. Use black, "letter quality" or "near letter quality" fonts on ink jet or laser printers.

## Title page

The correspondence address appears single spaced (the only exception to the "double-spaced-throughout" rule) in the upper left corner. Include a telephone number for the correspondence author (and, if available, a fax number and e-mail address) and the date when the manuscript or revision was prepared.

Put a running head (RH) double-spaced under the corresponding author address. The RH should briefly describe content of the article and should not exceed 40 characters. Use the senior author's last name followed by "et al." for >2 authors. In print, the running head appears at the top of odd-numbered pages, except for the first page of the article. It is important to leave the space at the top of the title page empty for the editorial staff to record information about the manuscript and write instructions to the printer.

The title should be  $\leq 10$  words, but longer titles are acceptable if shorter titles fail to communicate content.

Author(s) names are typed in mixed-case letters. The second, third, and subsequent lines of an address are indented. Include a complete address for each author. If an author's address has changed since the study was conducted, footnote his or her name with a numerical superscript positioned outside the comma following the name and include the author's present address in the footnote and label it "Present address ." For the corresponding author, add the e-mail address where said author can be reached to the end of the author's address in the list of authors on the first page of the manuscript. Also note the contact author for reprints (if other than the corresponding author), with an e-mail address, and authors who are deceased at the end of the appropriate author's address. Simply add a comma and then the appropriate information to the end of the address. Indent the first line of the footnote (2 spaces) and double-space the text. The footnote is followed by a period, but author addresses following the title have no period. Use United States Postal Service abbreviations for states and provinces that appear in addresses (Appendix A).

The abstract (which appears in peer-refereed and peer-edited manuscripts) should be a statement of findings in one paragraph, not exceeding 3% of the length of the text including the literature cited. It should include the following items:

1. Problem studied or hypothesis tested and justification for study. What was it and why is it important? Indicate new data, ideas, or interpretations used directly or indirectly to manage wildlife.
2. Pertinent methods. State those methods used to achieve the results summarized in the Results (keep the methods brief unless a new, greatly improved method is reported).
3. Results. Highlight the most important results, positive or negative.
4. Applicability of results. Explain how, where, when, and by whom data or interpretations can be applied to wildlife problems or contribute to knowledge of wildlife science.

### Key words

List 4–10 key words, in alphabetical order, that best describe major topics in the manuscript. Key words should appear immediately after the abstract. Do not capitalize key words unless they are words that require capitalization, such as proper nouns (e.g., Canada goose, not canada goose). Key words should be separated by a comma; however, there is no punctuation after the last key word.

### Text pages

Place author name(s) (e.g., Smith, Smith and Jones, Smith et al.) in the upper left corner of all pages following the title page; place page numbers in the upper right corner. These notations help keep the manuscript together during editing and typesetting.

## Headings

As demonstrated in these guidelines, 3 levels of headings are used in WSB manuscripts: 1) primary headings are centered in bold type, capitalizing only the first letter of the first word and the first letter of proper nouns; 2) secondary headings are the same except they are flush left; and 3) tertiary headings (run-in sideheads) are indented as part of a paragraph, italicized, and followed by a period and 2 spaces. Headings should be worded to accurately reflect content of the following section. For papers giving the results of management research, traditional headings (i.e., Abstract, Study area, Methods, Results, Discussion) are appropriate. However, more descriptive headings should be used if traditional headings do not effectively identify the content of the section.

## Format for departments

Contributions to *Book Reviews* and *Obituaries* have a format identical to regular articles except that the author name and address section appears at the end of the article. Contributions to *Student Voices*, *In My Opinion*, *Commentary*, and *From the Field* have a format identical to regular articles except that these articles do not have an abstract. Author photos and biographical information should be submitted with contributions to *Student Voices*, *In My Opinion*, *Commentary*, and *From the Field*.

## Style and usage

*Numbers and units.* Use digits for numbers (e.g., 7, 45) unless a number is the first word of a sentence or it is used as a pronoun (e.g., at least one escaped), in which case the number is spelled out. Avoid using introductory phrases such as "A total of...". Spell out ordinal numbers (e.g., first, third) in text and in literature cited, but use digits for adjectives such as 3-fold and 2-way. Use decimals rather than fractions except in equations and instances in which conversion to decimals misrepresents precision.

When identifying items by number, names should be lowercase (e.g., plot 1, site 5, day 3). Use symbols or abbreviations (e.g., %, kg) for measurement units that follow a number, unless the number is indefinite (e.g., thousands of hectares) or is the first word in a sentence. Hyphenate number-unit phrases used as adjectives (e.g., 6-m<sup>2</sup> plots, 1-year-old males) but not those used as predicate adjectives (e.g., plots were 3 m<sup>2</sup>). 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 (e.g., 25 2-m<sup>2</sup> plots). Do not use naked decimals (i.e., use 0.05, not .05).

*Times and dates.* Use the 24-hour system (0100 through 2400 hours) in discussions of time. Date sequence is day-month-year without punctuation (e.g., 4 Feb 1947). Spell out months, except in parentheses and table and figure bodies, where 3-letter abbreviations are used without a period (Appendix B). Do not use an apostrophe when referring to an entire decade (i.e., 1940s, not 1940's).

*Statistics.* Italicize Roman letters in the text used as symbols for statistics, tests, or variables (e.g., *n*, *O*, *R*, *F*, *t*, *Z*, *P*; Appendix B). Do not italicize numbers or names of trigonometric and transcendental functions, or certain statistical terms (e.g., ln, max., min., SD, and SE). Insert symbols from your word processing program's symbol directory as opposed to creating the symbol with keyboard functions (e.g., chi-square should appear as  $\chi^2$  [found in the symbol directory], as opposed to X<sup>2</sup> [created with keyboard functions]). Use an en dash (–) to

indicate “minus,” as opposed to the keyboard hyphen. Use times ( $\times$ ) to indicate multiplication, as opposed to an asterisk (\*) or a lowercase x.

Insert a space on either side of symbols when used as conjunctions in an equation (e.g.,  $n = 12$ ,  $P = 0.002$ ), but not when used as “adjectives” (e.g.,  $>20$  observations). Where possible, report exact probabilities (e.g.,  $P = 0.057$ , as opposed to  $P > 0.05$ ). A subscript precedes a superscript (e.g.,  $x_i^3$ ) unless the subscript includes  $>2$  characters (e.g.,  $x_{jul}^3$ ).

Avoid redundant use of the word “significantly” (e.g., “the means differed [ $P = 0.016$ ]”). 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 ( $\bar{x} = 7.8$ ,  $SE = 3.21$ ,  $n = 46$ ). Note that the appropriate degrees of freedom are subscripted with the test statistic.  $P$ -values less than 0.001 should be presented as  $P \leq 0.001$ .

*Abbreviations and acronyms.* Metric units, their appropriate prefixes, and abbreviations identified by an asterisk in Appendix B may be used in text. All other abbreviations or acronyms (except DNA) must be defined the first time used in the abstract and in the text. Do not start sentences with acronyms; do not use an apostrophe with plural acronyms (e.g., ANOVAs). All abbreviations in Appendices A–C may be used within parentheses, except for state and country names as part of organization or agency names (e.g., United States Department of Agriculture, not U. S. Department of Agriculture; Mississippi Department of Wildlife, Fisheries, and Parks, not MS Department of Wildlife, Fisheries, and Parks).

*Punctuation.* Use a comma before the conjunction in a serial list of  $>2$  items (e.g., red, black, and blue). Do not use a comma to separate a compound sentence before the conjunction unless the sentence will be confusing otherwise (e.g., “Use an infrared scope at night and use a regular scope during the day.”, not “Use an infrared scope at night, and use a regular scope during the day.”). Do not hyphenate prefixes, suffixes, or combining forms (e.g., postpartum) unless necessary to avoid misreading. Hyphenate compounds used as adjectives (e.g., 1-m plot, 2-day period, 14-cm dbh). Although the rules for hyphenation are complex, there are a few basic principles:

1. a phrase containing a participle or an adjective is hyphenated as a compound when it precedes the word modified (e.g., home-range estimation) and is written without a hyphen when it follows the word modified (estimation of home range);
2. a modifier containing a number is usually hyphenated (e.g., 3-month-old fawn); and
3. a 2-word modifier containing an adverb ending in -ly is not hyphenated (e.g., publicly owned land).

However, excessive use of compound modifiers before nouns make for difficult reading; they tend to obscure the true subject. Avoid ambiguous use of nouns as modifiers (e.g., wolf researchers, woman hunters). Use prepositions to avoid using nouns as adverbs (e.g., nesting by birds, not bird nesting; hunting with dogs, not dog hunting) and to avoid noun strings exceeding 3 words (e.g., radiotelemetry locations of dens in fall, not fall den radiotelemetry locations).

Do not use a slash (/) to indicate “and” or “or” or to express a range; use only to indicate “divided by” or “per”.

Avoid using words in ways other than their standard meanings; use quotation marks to imply a special meaning sparingly.

Trademarks (i.e.,™, ®) should be used at the first mention of a product name, where appropriate, and not thereafter.

Closing quotation marks should be placed after periods and commas, but may be placed either before or after other punctuation (CBE Style Manual Committee 1994:177–181). Fences must appear in pairs; however, the sequence varies: use ([ ]) in regular sentences, use {[ ( )]} in mathematical equations, and use (( )) in special cases such as chemical names. Use brackets to enclose something not in the original work being quoted (e.g., insertion into a quotation or a translated title [CBE Style Manual Committee 1994:58–59]).

*Enumeration.* Do not number series within a sentence or paragraph (e.g., 4 study objectives) unless some of the clauses or sentences are lengthy or involve complex punctuation. In such cases, place an open parentheses after the number, e.g., 1), 2), 3). 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 examples in Subject matter [page 2]).

*Species plurals.* When discussing a group of animals in a study, use the plural form, e.g., “We collected data from alligators in Louisiana.”, not “We collected data from alligator in Louisiana.” When speaking of a species in general, use the singular form and add “the,” e.g., “Very few studies have been conducted on the alligator and more research is needed.”

### Common and scientific names

Do not capitalize common names, except words that are proper names (e.g., Florida panthers [*Puma concolor*], Canada goose [*Branta canadensis*]). Scientific names (in italics, in parentheses) should follow the first mention of a common name, except in the title. Scientific names should be given the first time a species is mentioned in the abstract and again the first time it is mentioned in the text. Abbreviate genus names with the first letter when they are repeated within a few paragraphs, provided the meaning cannot be confused with another genus with the same first letter.

Do not use subspecies names unless essential and omit the taxonomic author's name. Use "sp." (not italicized) to indicate species unknown and use "spp." for multiple species. Use the most widely accepted nomenclature in cases where disagreement occurs. Refer to the most current edition of The American Ornithologists' Union Check-list or the American Ornithologists' Union website (<http://pica.wru.umt.edu/AOU/birdlist.html>) and periodic supplements published in *Auk* as general references for North American bird species. Use the Sibley and Monroe Classification's Bird Families of the World website (<http://www.stat.wharton.upenn.edu/~siler/birdframe.html>) for birds of the world. For mammals, use Nowak (1991), Wilson and Reeder (1993), or the Smithsonian Institute's Mammal Species of the World website (<http://www.nmnh.si.edu/msw/>). Please note that websites cannot be cited as sources because they are not recognized as acceptable scientific references; however, those listed above may be used to check scientific names. There is no single reference for North American plants; however, we recommend citing the most widely accepted regional flora reference (e.g., in northwestern states, Hitchcock and Cronquist 1973). Do not include 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. Avoid using English units

in parentheses. However, the following non-SI units are permitted:

Area: hectare (ha) in lieu of  $10^4 \text{ m}^2$ .

Energy: calorie (cal) in lieu of Joule (J).

Temperature: Celsius ( $^{\circ}\text{C}$ ) in lieu of Kelvin (K).

Time: minute (min), hour (hr), day (do not abbreviate), etc., in lieu of seconds (sec).

Volume: liter (L) in lieu of  $\text{dm}^3$ .

### **Securing appropriate approval(s)**

It is increasingly more important in today's research community that scientists ensure that their research activities are conducted such that the welfare of the animals they are studying (e.g., installing radiotransmitters) or the rights of human subjects (e.g., sending them a survey) is considered. Consequently, it is important that all peer-reviewed and peer-edited manuscripts submitted for publication in the *Wildlife Society Bulletin* demonstrate that these concerns have been addressed.

#### **Animal care**

Appropriate documentation that proper animal care and use was applied when using live vertebrate animals for research must be submitted. Acceptable means of documentation include an Institutional Animal Care and Use Protocol number (as designated by most U.S. universities), the number of the permit or license issued to hold animals (such as with private breeders), or the equivalent. This policy covers all vertebrate animals, including mammals, birds, reptiles, amphibians, and fish.

#### **Human subjects**

Appropriate documentation that proper approval was obtained to perform research involving human subjects (primarily surveys) must be provided. Acceptable means of documentation include a Human Subjects Protocol number (as designated by most U.S. universities) or the equivalent.

### **Citing literature in text**

In most cases, you should reference citations parenthetically at the end of a sentence; e.g., Mallard brood survival was greater in the wettest years (Rotella 1992). Published literature is cited by author and year (e.g., Jones 1980, Jones and White 1981). For works with >3 authors, use "et al." after the first author's name (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. Citations in a series should be put in chronological order. For citations with the same year, use alphabetical order within the chronological order (e.g., Jones 1980, Brown 1991, Monda 1991, Rotella 1991, Allen 1995). If citations in a series have >1 reference for the same author(s) in the same year, designate the years alphabetically (in italic type) and separate citations with semicolons (e.g., Jones 1980*a, b*; Hanson 1981; White 1985, 1986). **Do not give >4 citations in the text to reference a specific issue or scientific finding.** For a direct quotation, cite author and year, followed by a colon and page number(s), e.g., Manfredo et al. (1996:54) defined human dimensions as "an area of investigation which attempts to describe, predict, understand, and affect human thought and action...."

Cite documents that are cataloged in major libraries, including theses and dissertations, as published literature. These citations include symposia, proceedings, and United States government reports that have been widely distributed (see *Literature cited style*). All other documents should be cited as unpublished data in the text only.

### **Citing unpublished sources in text**

If references are not easily available or are not widely distributed they should be cited in text only. This includes reports that are not published or widely distributed, manuscripts that have not yet been accepted for publication, and personal communications and observations. These references should be cited in text as follows:

Personal communications: (J. G. Jones, National Park Service, personal communication)

Unpublished report: (D. F. Timm, Alaska Department of Fish and Game, unpublished report) OR (E. J. Jones, North Carolina State University, unpublished report)

Unpublished data (including manuscripts in review):

(D. F. Brown, Arizona Game and Fish Department, unpublished data).

**\*\*NOTE:** State and country names are abbreviated in parentheses (Appendix A) except when they appear in the title of an academic institution or agency.

You should avoid overusing unpublished information. Not only are such references not as credible as published literature, but overuse of such citations will make your text cumbersome and difficult to read.

### **Literature cited style**

Type the citations double spaced, immediately following the text, not necessarily on a new page. Spell out all words in the cited literature (i.e., do not use abbreviations). However, the following 3 exceptions are allowed in the cited literature and parenthetically in text: 1) U.S. for United States (except when part of an agency or organization name, e.g., United States Fish and Wildlife Service; or as the country at the end of a citation, when it should appear as USA), 2) Inc. for Incorporated, and (3) D.C. for District of Columbia. Do not abbreviate in the text except parenthetically. USA is the only country abbreviation allowed; all others should be written out.

The citations should be alphabetized by authors' surnames, regardless of the number of multiple authors for the same publication. Within alphabetical order, the sequencing is chronological. Use upper- and lowercase letters (typing all capital letters complicates editing names such as DeGraaf and van Druff). Use 2 initials (where appropriate) with 1 space between each initial. If citations have >1 reference for the same author in the same year, designate the years alphabetically and italicize the letter. Always write out all author names, even for multiple citations by the same author(s).

Following is a list of examples to guide you in formatting the literature cited section of your manuscript. You also may want to refer to a recent issue of the *WSB* for more examples. Please note that websites are not included in this list because they are not recognized as acceptable scientific references. Exceptions for websites meeting appropriate standards can be made, but must be submitted to and approved by the Editor on a case-by-case basis.

**Book—general format**

McCullough, D. R. 1979. The George Reserve deer herd: population ecology of a K-selected species. University of Michigan, Ann Arbor, Michigan, USA.

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

\*\*NOTE: Do not write the total page number of books at the end of citations.

**Book with >1 edition**

Smith, R. L. 1974. Ecology and field biology. Second edition. Harper and Row, New York, New York, USA.

\*\*NOTE: As in text, write out all ordinal numbers (e.g., Second edition, Third edition, etc.)

\*\*NOTE: For publishers, do not include words like Company, Incorporated, Limited, Press, or Publishing (e.g., Harper and Row, not Harper and Row Publishers).

**Book with >1 volume**

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

**Book with >1 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.

**Book with editor as author**

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

**Reprint of a book**

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

**Chapter within a book**

Fite, E. 1994. The environmental protection agency's avian pesticide assessment model. Pages 519–530 *in* R. J. Kendall and T. E. Lacher, editors. Wildlife toxicology and population modeling integrated studies of agroecosystems. CRC, Boca Raton, Florida, USA.

**Theses or dissertations**

Brelsford, M. A. 1991. Effects of grazing by wapiti on winter wheat and winter rapeseed, and the effects of simulated wapiti use on winter wheat in northern Idaho. Thesis, University of Idaho, Moscow, Idaho, USA.

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

\*\*NOTE: Use the word Thesis to denote Master of Science (M.S.) or Master of Arts (M.A.) and Dissertation for Doctor of Philosophy (Ph.D.).

**Journal—general format**

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

Steigers, W. D., Jr., and J. T. Flinders. 1980. A breakaway expandable collar for cervids. *Journal of Mammalogy* 61:150–152.

**\*\*NOTE:** Issue numbers are included only if the pages of each issue are numbered separately.

**Journals in press—year and volume known**

Zelenak, J. R., and J. J. Rotella. 1997. Nest success and productivity of ferruginous hawks in northern Montana. *Canadian Journal of Zoology* 75: in press.

**\*\*NOTE:** "In press" indicates that the manuscript has been officially accepted for publication. This does not include manuscripts that are being considered for publication; these references should be cited in text as unpublished data.

**Journals in press—year and volume unknown**

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

**\*\*NOTE:** These references are cited in text as (Giudice and Ratti, in press).

**Symposia and proceedings—complete volume**

DeGraaf, R. M., technical coordinator. 1978. Proceedings of a workshop on management of southern forests of nongame birds. United States 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* R. M. DeGraaf, technical coordinator. Proceedings of a workshop on management of southern forests of nongame birds. United States Forest Service, General Technical Report SE-14, Washington, D.C., USA.

**Symposia and proceedings—part of a numbered series**

Kroll, J. C. 1994. These were the good old days: a new paradigm for white-tailed deer management. *Proceedings of the Annual Southeastern Deer Study Group* 17:20–21.

**Symposia and proceedings—not part of a numbered series—complete volume**

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.

**\*\*NOTE:** These citations must include dates and location.

**Symposia and proceedings—not part of a numbered series—individual article**

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.

**\*\*NOTE:** These citations must include dates and location.

**Government publication**

Lull, H. W. 1968. A forest atlas of the Northeast. United States Forest Service, Northeastern Forest Experiment Station, Upper Derby, Pennsylvania, USA.

**Government publication—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. United States Fish and Wildlife Service, Resource Publication 125, Washington, D.C., USA.

**Government publication—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, if it appears in parentheses, cite as (Natl. Res. Counc. 1977).

**Newspaper, newsletter, and magazine articles**

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

Eisler, P., and J. T. Buckley. 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, D. M. 1997. Protecting animals at the ballot box. Mainstream, Animal Protection Institute. Spring: 24–27.

Jones-Jolma, D. 1993. The fight to reform trapping in Arizona. The 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 papers dealing with public perceptions).

**Court cases**

Cite complete title and year of case in text only.

**Associate editor listing**

For peer-reviewed manuscripts, note the last name of the associate editor immediately after the literature cited section. Italicize the associate editor title, but not the name (e.g., *Associate editor*: Smith).

**Tables and figures**

Tables generally require more effort per page from the editorial staff than other parts of a manuscript, perhaps because tables are subject to format and style rules not appreciated by many authors (Table 1). Write complete titles (double-spaced) so a reader can understand the table without referring to the text. The title should include names of characteristics and organisms measured, measurement unit(s) in parentheses, and places and dates. Avoid >1 sentence, using footnotes to explain details if necessary.

Submit only essential tables and figures. Often tables overlap with presentation in the text or the information can be printed easily in the text with less journal space. Do not present the same data in a table and a figure. Number tables and figures independently. In the text, limit

reference of tabular data to highlights of the most important information. In most cases, reference tables and figures parenthetically. Avoid statements such as "The results are shown in Tables 1–4." Prepare line drawings only for data that cannot be presented as clearly in a table. For general guidance, see CBE Style Manual Committee (1994: 677–693).

Tables and figures should be self-explanatory; avoid references to the text and be sure the title includes the species or subject of the data and where and when 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. Tables and figures should be included on separate sheets at the end of the text rather than inserted into the document.

## Tables

*Constructing 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); include such data in the text. For data that must be shown in a table, items that provide the most important comparisons usually read vertically, not horizontally.

To simplify the transfer of tables to the desktop publishing system, tables should be created using tabs, as opposed to the table function of the word processing software. However, if the table function must be used, put only 1 row of text in 1 row of cells and never use columns within a table. If a table is imported from a spreadsheet program such as Lotus or Excel, be sure to include the original spreadsheet file with your word processing file.

*Table titles.* Table titles may vary; however, we recommend providing information in the following sequence: 1) name of the characteristic that was measured (e.g., weight, age, density), 2) measurement unit or units in parentheses (e.g., cm, No./ha, M:100 F, %), 3) name of species or other entity measured (e.g., "of white-tailed deer"), and 4) location(s) and date(s) of study. Keep in mind that each part of the sequence can include >1 item (e.g., "Carcass and liver fat [%] and adrenal and kidney weight [mg] of white-tailed deer in Ohio and Michigan, 1975").

Avoid beginning the table title with "puff" words (e.g., The..., Summary of..., Comparisons between...) and words that can be presented parenthetically as symbols or abbreviations (e.g., %). Symbols such as *n* and % in the table title seldom need repetition in table headings. Do not use abbreviations in table titles, except within parentheses. However, use standard abbreviations and symbols (Appendix A–C) in the table body.

*Rules.* The lines printed in tables are called "rules," and they should be used according to the following WSB standards:

1. Vertical rules should not appear in tables. Each table should contain at least 3 rules—below the title, below the column headings, and at the bottom. Insert each as a single, continuous line.
2. Use rules that straddle subheadings (straddle rules) within column headings (e.g., WSB 26:51)
3. Do not use rules to show summation. Use "Total" or its equivalent in the row heading.
4. Do not use rules to join the means in multiple-range tests. Use Roman uppercase letters instead of rules (e.g., 12.3A<sup>a</sup>, 16.2A, 19.5B) where the superscript "a" references a footnote such as "<sup>a</sup>Means with the same letters are not different ( $P < 0.10$ )" (e.g., WSB 26:213–214). Uppercase letters may be used in a similar fashion to reference the relationship of data among columns (e.g., JWM 50:371).

Use straddle rules liberally to join related columns and reduce wordage. Label columns to avoid unnecessary print in the data field. For example, instead of " $\bar{x} \pm SE$ ," label  $\bar{x}$  and SE as separate columns so that  $\pm$  need not be printed. Similarly, label sample size columns " $n$ " instead of using numbers in parentheses in the data field.

*Table headings.* Keep column- and row-heading words or symbols (e.g., %,  $n$ , SE) out of the data field. Type the main headings flush left and indent their subheadings (e.g., WSB 26:97).

*Data field.* In the data field, do not use dashes (which are often misused to mean "no information") or zeros unless the item was measured and 0, 0.0, or 0.00 correctly reports the measurement. Also, 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, do not use  $>3$  digits past the decimal and do not list  $P = 0.000$ ; the proper form is  $P \leq 0.001$ .

Never include "naked" decimal points in the data field. In other words, all decimals should be surrounded by a number (e.g., 0.05, 1.00, etc.).

*Footnotes.* For footnote superscripts, use asterisks (\*, \*\*, etc.) for probability levels and lowercase Roman (not italic) letters for other footnotes. Place letters alphabetically in the following sequence: 1) title, 2) left to right in the table, and 3) down the table. Be certain that each footnote character in the title and table matches an explanation that is indented below the table. Left-justify run-on lines of footnotes. Use footnotes liberally to reduce cluttering the title and table with details.

Keep in mind that the most common errors in tables are single spacing, incomplete titles, naked decimal points, misalignment of table columns, and ambiguous or unnecessary characters in the data field. Being aware of these problems beforehand may save you time during the review and the revision process.

## Figures

WSB editors encourage the use of line drawings, photographs, or other illustrations that improve communication. Lettering should be sentence case (i.e., mixed-case letters) and must be  $>1$  mm tall when the figure is reduced. Suggestions for preparing high-quality illustrations can be found in Allen (1977) and the CBE Style Manual (1994:693–699). **Submit copies of all intended figures, including photos, with the original manuscript submission. Photos are considered figures and, as such, should include captions such as those described below.** Print-quality figures or glossy prints are not required when the manuscript is submitted for consideration (you may submit photocopies), but must be sent to the Editor with the author's final revision after the manuscript has been accepted. Do not submit figures larger than 215 x 280 mm (8.5 x 11 inches).

*Figure captions.* Type all figure captions on 1 page and on the back of each figure write the contact author's name, figure number, and "Top" in pencil. Figure captions tend to be longer than table titles. The caption may be several sentences long and include brief suggestions for reading and interpreting the figure. If appropriate, include a statement of credit at the end of the caption (e.g., "Photo by R. Dolbeer.", "Photo courtesy of United States Fish and Wildlife Service.").

*Figure submission.* **Figures may be submitted in the following forms: slides, printed black-and-white or color photographs (most will appear in black-and-white), line drawings, and electronic files from graphics software programs.**

If a figure is created electronically, the computer graphics file is preferred (in addition to a hard copy). The most desirable formats include, in order of preference: bitmapped files such as .tif, .jpg, .bmp, and Kodak photo-CD (.pcd); Postscript (.eps, .ps, .prn; but fonts must be saved as graphics). Less desirable but acceptable are: .pcx, .wpg, .cmf, .wmf, .tga, .cdx, .cpx, .wl. NOTE: Users of Powerpoint, Corel Presentations, and other slide creation programs must include the original bitmapped files with the slide files. Users of Corel Draw/Photopaint, Adobe Photoshop, and other paint/draw programs should output graphics as bitmapped files (preferably .tif). Excel chart (.xlc) files must include their data and should use only TimesNewRoman or Helvetica fonts. Contact the editorial office if you have questions regarding formats.

Authors should submit  $\geq 2$  hard copies of each figure (whether or not an electronic file is provided). An ink jet or laser printer should be used to produce graphics on smooth-surfaced paper. Print-quality figures should be submitted with the final manuscript revision (at the same time as the accuracy check, copyright, and page charge forms). They should not be stapled and should be mailed inside a manilla folder or other protective covering.

Line drawings and photos must be high-quality, easily reproducible prints. Hand-drawn lines and lettering and typewriter characters are not acceptable for line drawings. We recommend professional preparation of line drawings. Lettering from modern personal computer graphics software and printers is acceptable and recommended. When preparing figures, please keep in mind that components of the figure (including lettering) must be of sufficient size and clarity to withstand reduction of the figure to a size appropriate for a 10.5- x 23-cm (6.5- x 9-inches) page format.

Photos must have sharp focus, high tonal contrast, and a reference scale if size is important. Prints should have a glossy finish; they must not be mounted. Slides (transparencies) should be originals (not duplicates) if at all possible. Sets of 2–4 related photos may be presented as 1 figure if prints are the same width. Label photos that will appear in the same figure as A, B, C, and D for reference in the caption and in text. Cropping often improves composition of photos, but do not mark a print to be cropped; instead, mark a photocopy of the photo with your recommendation or preference for cropping.

*Text in figures.* Text used within figures should be sentence case (mixed-case), Roman (not italic) type, unless these special attributes are essential to the meaning of the text, as in mathematical terms (e.g., *n*, *N*, etc.) and most metric units (kW, m, etc.). Use standard abbreviations (Appendices A–C) in the figure body, but not in the figure caption. Identify any unusual symbols used in a legend within the figure (preferred) or in the figure caption.

*Acknowledgments.* The acknowledgments appear immediately before the literature cited section and should be brief. All acknowledgments should include both initials (where appropriate) and the last name of individuals acknowledged. They should be simple, without qualifying adjectives. A. Ballard provided valuable assistance in preparing the appendices for this revision. D. L. Minnis provided assistance with reviewing drafts. We thank J. T. Ratti and L. M. Smith for allowing us to use sections of their 1998 guidelines for *JWM* in compiling this revised and updated version of *Guidelines for authors and reviewers of Wildlife Society Bulletin manuscripts* by Guthery et al. (1988).

### Literature cited

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- Wilson, D. E., and D. M. Reeder, editors. 1993. *Mammal species of the world: a taxonomic and geographic reference*. Second edition. Smithsonian Institution, Washington, D.C., USA.

(Note: Most of the citations used as examples in the text do not appear in the Literature cited.)

*Associate editor:* Minnis

Table 1. Format and style guidelines for tables accompanying manuscripts submitted to the *Wildlife Society Bulletin*.

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Item	Style rule
Abbreviations	Use standard abbreviations.
Capitalization	Capitalize only the first letter for a column heading or phrase within a table.
Column heads	Required for each column. Do not submit tables with unlabeled columns.
Footnotes <sup>a</sup>	Use alphabetical superscripts, except for footnotes specifying probability levels.
Spacing	Double-space throughout, including title and footnotes.

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<sup>a</sup> The first line of a footnote is indented (2 spaces). The remaining lines are flush with the left margin and double spaced. See page 18 for sequence of footnotes.

Table 2. Example of correct format of tables accompanying manuscripts submitted to the *Wildlife Society Bulletin*.

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Site	Animal Group			
	Avian		Mammalian	
	Insectivorous	Carnivorous	Insectivorous	Carnivorous
Xeric	5	3	2	4
Mesic	7	5	1	3
Hydric	12	7	5	8

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Appendix A. Abbreviations for United States and Canadian political units. Use American National Standards Institute (ANSI) abbreviations in parentheses, table and figure bodies, and footnotes. Do not abbreviate in text. Use United States Postal Service (USPS) abbreviations in addresses with zip codes. A blank means do not abbreviate.

Unit	ANSI	USPS	Unit	ANSI	USPS
U.S. territories			U.S. territories (cont'd)		
Alabama	Ala.	AL	Oklahoma	Okla.	OK
Alaska	Alas.	AK	Oregon	Oreg.	OR
Arizona	Ariz.	AZ	Pennsylvania	Pa.	PA
Arkansas	Ark.	AR	Puerto Rico	P.R.	PR
California	Calif.	CA	Rhode Island	R.I.	RI
Colorado	Colo.	CO	South Carolina	S.C.	SC
Connecticut	Conn.	CT	South Dakota	S.D.	SD
Delaware	Del.	DE	Tennessee	Tenn.	TN
District of Columbia	D.C.	DC	Texas	Tex.	TX
Florida	Flor.	FL	Utah	Ut.	UT
Georgia	Ga.	GA	Vermont	Vt.	VT
Guam		GU	Virginia	Va.	VA
Hawaii	Haw.	HI	Virgin Islands	V.I.	VI
Idaho	Id.	ID	Washington	Wash.	WA
Illinois	Ill.	IL	West Virginia	W.Va.	WV
Indiana	Ind.	IN	Wisconsin	Wis.	WI
Iowa	Ia.	IA	Wyoming	Wyo.	WY
Kansas	Kans.	KS			
Kentucky	Ky.	KY	Canadian provinces and territories		
Louisiana	La.	LA	Alberta	Alta.	AB
Maine	Me.	ME	British Columbia	B.C.	BC
Maryland	Md.	MD	Manitoba	Manit.	MB
Massachusetts	Mass.	MA	New Brunswick	N.B.	NB
Michigan	Mich.	MI	Newfoundland	Newf.	NF
Minnesota	Minn.	MN	Nova Scotia	N.S.	NT
Mississippi	Miss.	MS	Ontario	Ont.	ON
Missouri	Mo.	MO	Quebec	Que.	PQ
Montana	Mont.	MT	Saskatchewan	Sask.	SK
Nebraska	Nebr.	NE			
Nevada	Nev.	NV	Other		
New Hampshire	N.H.	NH	United States	U.S.	
New Jersey	N.J.	NJ	New Zealand	N.Z.	
New Mexico	N.M.	NM	United Kingdom	U.K.	
New York	N.Y.	NY			
North Carolina	N.C.	NC			
North Dakota	N.D.	ND			
Ohio	Oh.	OH			

Appendix B. Abbreviations commonly used in *Wildlife Society Bulletin* tables, figures, and parenthetical expressions. Only those metric units and their appropriate prefixes identified by an asterisk (\*) may be abbreviated in text. A blank means do not abbreviate.

Term	Abbreviation or symbol	Term	Abbreviation or symbol
amount	amt	logarithm, base 10	log <sub>10</sub>
approximately	approx	logarithm, base e	log <sub>e</sub> or ln
average	$\bar{x}$	male	M
calorie	cal*	maximum, minimum	max., min.
Celsius	°C*	meter <sup>a</sup>	m*
chi-square	$\chi^2$	metric ton	t
coefficient	coeff	mile	mi
coefficient of		minute	min
correlation, simple	$r$	month	
multiple	$R$	month names	Jan, Feb, ...
determination, simple	$r^2$	more than	>*
multiple	$R^2$	number (of items)	No.
variation	CV	observation	obs.
confidence interval	CI	parts per billion	ppb*
confidence limits	CL	parts per million	ppm*
day		percent	%*
degrees of freedom	df	population size	$N$
diameter	diam	probability	$P$
diameter breast height	dbh	range	
experiment	exp.	sample size	$n$
female	F	second	sec
$F$ -ratio	$F$	Spearman rank correlation	$r_s$
gram	g*	square	sq
gravity	$g$	standard deviation (s)	SD
hectare	ha*	standard error	SE
height	ht	Student's $t$	$t$
Hotelling's $T^2$	$T^2$	temperature	temp

Term	Abbreviation or symbol	Term	Abbreviation or symbol
hour(s)	hr	versus	vs.
Joule	J*	volt	V*
kilocalorie	kcal*	volume	vol.
lethal concentration, 50%	LC <sub>50</sub>	watt	W*
lethal dose, median	LD <sub>50</sub>	week	
less than	<*	weight	wt
limit	lim	Wilcoxon test	<i>T</i>
liter	L*	year	yr
		Z-statistic	<i>Z</i>

<sup>a</sup> All standard meter-based measurement units can be abbreviated in text when they appear after a number (e.g., mm, cm, km, etc.).

Appendix C. Abbreviations<sup>a</sup> to be used in parenthetical expressions and table and figure bodies only. An asterisk (\*) indicates a frequently misabbreviated word; a blank means do not abbreviate.

Term	Abbreviation	Term	Abbreviation
abstract-	abstr.	circula-	circ.
academ-	acad.	clini-	clin.
acta		college(i)-	coll.
administr-	adm.	commerc-	commer.
advanc-	adv.	commission-	comm.
aeronautic-	aeronaut.	committee	comm.
affair-	aff.	commonwealth	commonw.
Afri-	Afr.	Commonw. Sci. and Ind.	C.S.I.R.O.
agency		Res. Organ.	
agricult-*	agric.	communications	commun.
agronom-	agron.	company[ies]	co.
Ameri-*	Am.	completion	
anali[y]-	anal.	confer-	conf.
anals	an.	congres-	congr.
anatomical	anat.	conserva-*	conserv.
animal-	anim.	contamina-	contam.
annal-	ann.	catalogue	cat.
annu-*	annu.	coopera-	coop.
Antarcti-	Antarct.	coordinator	coord.
appli-	appl.	corporation	corp.
approximately	approx.	council	counc.
archaeology	archaeol.	current	curr.
archiv-	arch.	depart-*	dep.
Arctic	Arct.	develop-	dev.
assistance	assist.	disease	dis.
associ-	assoc.	disserta-	diss.
Atlanti-	Atl.	district	dist.
atmos-	atmos.	divis-	div.
Australi-	Aust.	Doctor of Philosophy	Ph.D.
avian		east*	
bac(k)teriolog-	bac(k)teriol.	eastern*	east.
behavio(u)r-	behav.	ecolog-	ecol.
bibliogra-	bibliogr.	econom-	econ.
biennial	bienn.	education(al)	educ.
biochem-	biochem.	electric[q]-	elec.
biolo-	biol.	endocrinolog-	endocrinol.
biometri-	biom.	energy	
board		engineer-	eng.
botan-	bot.	Engl-	Engl.

Term	Abbreviation	Term	Abbreviation
branch		entomolog-	entomol.
breeder		environment-	environ.
British*	Br.	Europ-	Eur.
bullet-	bull.	evol-	evol.
bureau-	bur.	experiment-	exp.
Canad-	Can.	fauna	
center-	cent.	federa-	fed.
central	cent.	field-naturalist	field-nat.
chapter*	chap.	Finni-	Finn.
chemic-	chem.	fishery[ies]	fish.
chronicle	chron.	forest-	for.
foundation	found.	mountain	mt.
Franc-	Fr.	muse-	mus.
French	Fr.	national-*	natl.
gazette	gaz.	National Academy of Science	Natl. Acad. Sci.
genera-	gen.	National Research Council	Natl. Res. Council.
geogra-	geogr.	National Aeronautics and	Natl. Aeronaut.
geolog-	geol.	Space Administration	and Space Adm.
German-	Ger.	National Oceanic and	Natl. Oceanic and
Gesellschaft	Ges.	Atmospheric Administration	Atmos. Adm.
go(u)vernment-	gov.	natural [al-] <sup>b</sup> [el-]	nat.
handb-	handb.	newsletter	newsl.
helmintholog-	helminthol.	nomenclat-	nomenclat.
herpetolog-	herpetol.	north*	
histo(i)r-	hist.	northeast*	
human	hum.	northeastern*	northeast.
ichthyolog-	ichthyol.	northern*	north.
immunolog-	immunol.	northwest*	
information	inf.	northwestern	northwest.
inland		Norwegian	Norw.
instit-	inst.	note(s)	
interi-	inter.	occasion-	occas.
internal	intern.	offi-	off.
internat[z]-	int.	organic[q]-	org.
investiga-	invest.	organis[z]a-	organ.
Japa[o]n-	Jap.	ornit(h)olog-	ornit(h)ol.
journal	J.	outdoor-	
laboratory	lab.	Pacific	Pac.
leaflet-	leafl.	pamf[ph]let-	pam.
libra-	libr.	paper-	pap.
magas[z]i-	mag.	parasitolog-	parasitol.
mammalia-	mamm.	patholog-	pathol.

Term	Abbreviation	Term	Abbreviation
mammaolg-*	mammal.	pharmacolog-	pharmacol.
management*	manage.	philosoph-	philos.
manua[e]l	man.	physica-	phys.
manufacturing	mfg.	physiolog-	physiol.
marin-	mar.	Pittman-Robertson*	
Master of Science	M.S.	Polish	Pol.
mathemat-	math.	press	
maximum	max.	printer	
medi[e]ca[h][i]-	med.	proceedings	proc.
meeting	meet.	professional	prof.
memoir-	mem.	program*	
memorand-	memo.	progres-	prog.
memorial	mem.	project-	proj.
meteorol-	meteorol.	protection	prot.
method(s)		provincial	prov.
Mex-	Mex.	psycholog-	psychol.
microbiolog-	microbiol.	public	
midland	midl.	publica-	publ.
midwestern	midwest.	publishing company	publ. co.
minimum	min.	quantit-	quant.
minist-	minist.	radio	
miscel-	misc.	range	
monogra-*	monogr.	raptor	
month-	mon.	record-	rec.
morf[ph]olog-	morf[ph]ol.	region-	reg.
regulation	regul.	supplement	suppl.
report-	rep.	survey	surv.
reproduction	reprod.	symposium	symp.
research-	res.	systematic	syst.
resource-*	resour.	technical	tech.
restoration	restor.	technolog-	technol.
revi[u]-	rev.	telemetry	telem.
Russi[k]-	Russ.	toxicology	toxicol.
sanitar[t]-	sanit.	transactions	trans.
scien.	sci.	transportation	transp.
secti-	sect.	vertebrat-	vertebr.
seminar	semin.	veterinari-[y]	vet.
serie-	ser.	volum-	vol.
ser(i)olog-	ser(i)ol.	volunteer	
servi-*	serv.	west*	
society	soc.	western*	west.
southeastern	southeast.	wildfowl	
special	spec.	wild life	
station*	stn.	wildlife	wildl.

Term	Abbreviation	Term	Abbreviation
statistical	stat.	workshop	
study(ies)	stud.	zoolog-	zool.

<sup>a</sup> Words or roots followed by a hyphen encompass >1 word derived from the same root. Letters in brackets can substitute for the letters preceding the bracket(s).

<sup>b</sup> Abbreviate “Naturaliste Canadien” as “Nat. Can. (Que.)” and “Nature Canada” as “Nat. Can. (Ottawa).”