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Paul R. Krausman
School of Natural Resources
325 Biological Sciences East
University of Arizona
Tucson, Arizona 85721, USA
520-621-3845; Fax: 520-621-8801; krausman@ag.arizona.edu

RH: *WM* Guidelines • *Krausman et al.*

MANUSCRIPT GUIDELINES FOR *WILDLIFE MONOGRAPHS*

Paul R. Krausman,^{1,2} School of Natural Resources, 325 Biological Sciences East, University of
Arizona, Tucson, AZ 85721, USA

James W. Cain, III, School of Natural Resources, 325 Biological Sciences East, University of
Arizona, Tucson, AZ 85721, USA

Brian D. Jansen, School of Natural Resources, 325 Biological Sciences East, University of
Arizona, Tucson, AZ 85721, USA

Abstract: The guidelines for preparing manuscripts submitted to *Wildlife Monographs (WM)* are similar to the guidelines for preparing manuscripts submitted to *The Journal of Wildlife Management (JWM)*. However, there are differences; this manuscript provides guidelines for preparing manuscripts submitted to *WM* for publication consideration. Authors should submit manuscripts in the format and style described herein, but realize that their papers should not look identical to this typeset article when initially submitted. These guidelines are also available at

¹Present address: use this footnote for the present address of an author, including the country, if it differs from the address during the time the research was conducted.

²Corresponding author e-mail: krausman@ag.arizona.edu

<http://www.wildlife.org> where they do appear in the form of a sample manuscript, and are summarized as “Instructions for Authors” at the back of each *WM*. Proper preparation of manuscripts increases the probability and speed of acceptance.

WILDLIFE MONOGRAPHS 000:0-000; 2005

Key words: author, format, guidelines, manuscript, style, *Wildlife Monographs*.

The title and abstract is presented again in Spanish and French without key words.

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INTRODUCTION

There are differences between articles in final printed form (like this one) and correct format of submitted manuscripts (e.g., key words, text columns, placement of tables and figures, line spacing). Check the editorial pages of recent *JWM* issues (*WM* are a supplement to *JWM*), and *The Wildlife Society Bulletin* (TWS) website (<http://www.wildlife.org>) for instructions that may supersede these guidelines and for the name and contact information of the current Editor for *WM*. Papers that deviate from *WM* format and style will be returned for correction before review.

HIGHLIGHTS OF GUIDELINE CHANGES

For authors with experience and knowledge of *JWM* Guidelines and *WM*, it will be helpful to identify and review significant changes in this manuscript. Fundamental changes include: (1) Abstracts will be in English, followed by Spanish and French. If authors are from a country that uses a different language, *WM* may publish a fourth abstract in their language. (2) Following a Management Implications section at the end of the text, authors should include a Summary that identifies key findings of the study. This is different from the abstract and can simply be a listing of the key findings. (3) In some cases *WM* will publish manuscripts with chapters authored by different people. These guidelines specify how that information should be presented. (4) Detailed instructions about on-line references, and (5) a change in formatting for the LITERATURE CITED: author names should be in large-and small-capital letters. Please review this document for other changes. The format that follows applies in general to all manuscripts submitted to *WM*.

POLICY

The Editor and ≥ 2 Consulting Editors review and judge each submitted manuscript on data originality, concepts, interpretations, accuracy, conciseness, clarity, contribution to existing literature, and subject matter. Submission to *WM* should be a learned, detailed, thoroughly documented treatise covering exhaustively a small area in a field of learning. They should be comprehensive and synthetic. Prior publication or concurrent submission to other refereed journals precludes review or publication in *WM* (see additional information in section on Transmittal Letter and Submission). All Wildlife Society publications (i.e., *JWM*, *WM*, *Wildlife Society Bulletin*) have similar quality standards. Fisheries manuscripts are discouraged unless information is part of an account that mainly concerns terrestrial vertebrates.

Wildlife Monographs should be ≥ 40 manuscript pages (not including literature cited, tables, figures, and appendices), or ≥ 80 pages overall. Shorter papers should be submitted elsewhere.

PAGE CHARGES AND COPYRIGHTS

All costs for publication of *WM* are paid for by the authors. When manuscripts are submitted authors are required to indicate that funds for publication are available, and the name and address of the person to whom the invoice should be sent. Manuscripts will not be sent out for review unless this information is sent to the Editor.

Page charges may change annually. In 2006 *WM* charges were approximately \$10,000/*WM*. Color plates are \$900/page.

Upon acceptance, authors or their employers must transfer copyright to The Wildlife Society if manuscripts not in the public domain. Publications authored by federal-government employees are in the public domain. Copyright forms will be sent to the authors when publications are accepted. Manuscript submission implies entrusting copyright (or equivalent

trust in public-domain work) to the Editor until the manuscript is rejected, withdrawn, or accepted for publication. If accepted, The Wildlife Society retains copyright.

SUBMISSION

Authors should submit 4 hard copies of manuscripts to be considered for *WM* to the Editor with a submission letter. Check the most recent *WM* for the name and contact information of the Editor. The letter should indicate you are submitting the manuscript exclusively to *WM* and no part of it has been published or is being considered for publication elsewhere. Note whether any portion of the manuscript has been published, reported, or is being considered for publication elsewhere, or if the manuscript relates to but does not duplicate other publications or manuscripts by the same authors. Include any other relevant information to the Editor. The letter should indicate the authors have funds for publication (see section above).

Thesis and dissertations do not constitute prior publication and need not be mentioned in the letter, but they should be cited in the manuscript. Similarly, abstracts of talks given at meetings do not constitute prior publication. Generally, unpublished reports that were required by sponsors and that were not widely distributed as part of a numbered series and federal aid and wildlife restoration reports do not constitute prior publication. Symposia proceedings, including published workshops, are considered publications. Provide information that bears on ethical and copyright considerations and any other information that might facilitate review and editing.

COPY

Do not hyphenate words at the right margin, and do not right-justify text. Margins should be 3 cm (1 3/16 in) on all sides. Do not violate margin boundaries to begin a new paragraph or the Literature Cited at the top of a new page; (i.e., do not leave >3 cm of space at the bottom of a page [except to prevent a widow heading]). Type the senior author's last name (upper left) and

page numbers (upper right) in a page header on pages 2 through the Literature Cited, on tables and figure title pages, but not on the first page, figures, or illustrations. Do not underline words in the text to indicate emphasis. Scientific names should be in italic font.

RUNNING HEAD, TITLE, AND AUTHORS

Page 1 of the manuscript should begin with the date (update with each revision), corresponding author's name, address, telephone, FAX, and E-mail single-spaced in the upper left corner. Thereafter, all text is double-spaced, including tables.

The running head (RH) is the first line following the correspondent's address. The RH is limited to 45 characters, left-justified, and typed in upper- and lower-case letters followed 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." Type the author's name(s) in italic font. The RH is used in final printed form as an abbreviated title at the top of each page following the title page.

The title follows the RH, is also left-justified in bold font, all upper-case letters, should not include abbreviations, acronyms, punctuations, and should not exceed 10 words (unless doing so forces awkward construction). In such cases, use ≤ 13 words. Do not use scientific names in the title except for organisms that do not have, or are easily confused by, common names. Do not use numbers in titles or the RH.

Author's names are left-justified in upper-case letters followed by a single affiliation and address in upper- and lower-case letters (where the author was employed during the study). The second and third lines of the author's address are indented 5 spaces. Use available U.S. Postal Service (USPS) abbreviations (Appendix A), zip codes, and the country abbreviation (e.g., USA), in each address. Write out words like Street, Avenue, and Boulevard, but abbreviate

directions (e.g., N. and N.W.). For multiple authors with the same address, repeat the address after each author's name.

FOOTNOTES

Footnotes appear at the bottom of the first page to reference present address of an author when it differs from the by-line address and to reference the e-mail address of the corresponding author. Footnotes also may be used to indicate a deceased author. The footnote appears immediately below a left-justified, solid line of 10 characters, and each footnote is indented 5 spaces and starts with a numerical superscript; subsequent lines are left-justified. The footnote origin corresponds to the superscript number following the author's name. No other information should be presented in footnotes. Endorsement disclaimers and pesticide warnings should be incorporated in the text. For information on table footnotes, see the Tables section.

ABSTRACTS

Begin with the word "Abstract" (left-justified) in italic and bold fonts followed by a colon. The abstract text begins after the colon on the same line and should be a single paragraph not exceeding 1 line/page of text, including Literature Cited. The abstract should include:

Problem Studied or Hypothesis Tested

Identify the problem or hypothesis and explain why is it important? Indicate new data, concepts, or interpretations directly or indirectly used to manage wildlife.

Methods

Briefly indicate methods used. Only elaborate methods if a new or improved method is reported.

Results

Emphasize the most important results, positive or negative.

Utility of Results

Explain how, when, where, and by whom data or interpretations can be applied to wildlife problems or contribute to knowledge of wildlife science.

On the line following the Abstract, type “*Wildlife Monographs 000:0-000; 20XX*” right-justified and in italics (*20XX* represents the year of submission; see page 1 of this manuscript).

After the English abstract present identical abstracts in Spanish and French. If the author wishes, a fourth abstract in another language can be added.

KEY WORDS

Key words follow the abstract. The phrase “Key words” is typed in italic and bold fonts followed by a colon, left-justified, and followed by 10-12 key words in alphabetical order. Include some words from the title and others that identify: (1) common and scientific names of principal organisms in the manuscript; (2) 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, radiotelemetry, 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. Type a solid line from the left to the right margin beneath the key words.

CONTENTS

Following the abstracts the contents of the *WM* should be listed beginning with the Introduction. Every first-second-, third-level heading should be listed exactly as they are listed in the text. For appendices, simply list “Appendices” (i.e., do not list the title of appendices). Type a solid line from the left to the right margin beneath the contents; begin the text below this line.

HEADINGS AND MAJOR SECTIONS

Headings

Three levels of headings may be used and examples of each appear in this manuscript. First-level headings are in upper-case letters, are left-justified, and in bold type. Second-level headings are also bold type and left-justified, but only the first letter of each word (except articles, conjunctions, and prepositions) is uppercase. Third-level headings have the first letter of each word upper-case, but they are indented 5 spaces, italicized, and followed by a period and 2 hyphens. Under a first-level heading, use only third-level headings if the subsections are short (≤ 2 paragraphs; see Abstract section of this manuscript for example). Avoid repeating exact wording of the heading with second- and third-level headings. Do not leave first- or second-level headings standing alone on the last line of a page (i.e., as a “widow line”), and avoid 1-sentence paragraphs.

Major Sections

Most *WM* manuscripts have 8 major sections: INTRODUCTION, STUDY AREA, METHODS, RESULTS, DISCUSSION, MANAGEMENT IMPLICATIONS, ACKNOWLEDGMENTS, and LITERATURE CITED. 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.

The Introduction (first-level heading) starts below the line under Contents and is a concise synthesis of literature specific to the manuscript’s main topic. The last part of the introduction states objectives or hypotheses tested.

Most STUDY AREA descriptions should be presented in past tense; e.g., “average annual precipitation was 46 cm,” “forage was primarily grass.” Exceptions include geological formations that have been present for centuries.

METHODS should be brief and include dates, sampling schemes, duration, research or experimental design, and data analyses. Previously published methods should be cited without explanation. New or modified methods should be identified as such and explained in detail. Many research projects require animal-welfare protocols, and these should be cited here. If an approval number for the protocol was available, list it parenthetically following the statement.

Present RESULTS in a clear, simple, concise, and organized fashion. Avoid overlapping text with information in tables and figures; do not explain analyses that should be presented in METHODS. Always try to describe the magnitude of the biological effect in addition to the results of statistical analyses. That is, terms such as “fewer” or “smaller” tell the reader little, and stating that something was “statistically different ($P < 0.01$)” without giving the actual difference conveys little meaning to the reader. For example, stating that “*A* was 25% larger than *B* ($P < 0.001$)” conveys more information than simply stating that “*A* was significantly larger than *B*”. RESULTS should be presented in past tense (e.g., body mass loss occurred during winter). Reserve comments on interpretation of results for the DISCUSSION.

The DISCUSSION provides an opportunity for interpreting data and making literature comparisons. Reasonable speculation and new hypotheses to be tested may be included in the DISCUSSION. Do not repeat results and comment only on the most important results. Systematic discussion of every aspect of the research leads to unnecessarily long manuscripts; be synthetic and relate your findings directly to your overall project goal, objectives, and hypotheses as appropriate.

The MANAGEMENT IMPLICATIONS section should be short and direct but explain issues important to management and conservation that are derived directly from your results. This section should address specific management opportunities or problems wherever possible.

ACKNOWLEDGMENTS (note correct spelling) appears in 2 places. Those that financially supported the study and paid for publication costs are listed on a separate page before the title page. Other acknowledgments should be listed under ACKNOWLEDGMENTS just before the LITERATURE CITED. It should be brief, and should include both initials (where appropriate) of individuals cited.

ACKNOWLEDGMENTS should be straightforward without ornate and qualifying adjectives or personal remarks. For example: We thank R. W. Mannan, H. E. Johnson, B. Rooney, R. Brown, and M. L. Morrison for review comments and contributions to this manuscript. Portions of this manuscript have been extracted from Ratti and Ratti (1988) Gill and Healy (1980), and Morrison (2005) with permission of The Wildlife Society. This is Contribution 662 of the Welder Wildlife Foundation.

CHAPTERS IN MONOGRAPHS

Brian D. Jansen

Wildlife Monographs may be multiple-authored, and responsibilities for various parts of the work or authorship of sections can be clearly identified in the text. Keith et al. (1984:7) outlines the contributions of each author.

If sections of the *WM* are authored by individuals that should receive recognition for their contribution they should be included in a byline as above if they are also an author of the *WM*. If the contributor is not an author of the *WM* their name and address should be listed as follows:

Lisa K. Harris

Harris Environmental Group, Inc., 1749 E. 10th Street, Tucson, AZ 85719, USA

Kiana K. G. Koenen

Wildlife Conservation and Management, School of Natural Resources, University of
Arizona, Tucson, AZ 85721

Wildlife Monographs is not an outlet for a series of edited papers unless they all contribute to a learned, detailed, thoroughly documented treatise covering exhaustively a small area of a field of learning. Series of edited papers on a similar topic should be discussed with the respective editors of *The Journal of Wildlife Management*. If of an appropriate length and scope, a proposal may be submitted to the Society as a special book publication.

Citations for chapters within a *WM* should follow the citation of book chapters (see LITERATURE CITED STYLE). *Wildlife Monographs* that have authored chapters will be identified on the inside cover as indicated below.

The *WM* contains chapters written by different authors. Cite the entire *WM* as:

Krausman, P. R., J. W. Cain III, *Wildlife Monographs* and B. D. Jansen. 2007. Manuscript guidelines for *Wildlife Monographs* 000.

Chapters within the *WM* should be cited as:

Jansen, B. D. 2007. Chapters in monographs. Pages 13-15 in P. R. Krausman, J. W. Cain III, and B. D. Jansen. Manuscript guidelines for *Wildlife Monographs*. *Wildlife Monographs* 000.

STYLE AND USAGE

Manuscripts with publishable data may be rejected because of poor writing style (e.g., long and complex sentences, superfluous words [Table 1], unnecessary information, and poor organization). Most editors are patient with this problem and are willing to offer helpful suggestions. However, Consulting Editors are less tolerant of poor writing, and this problem may lead to negative reviews. Many of these problems can be corrected by having your manuscript critically reviewed by colleagues before submission for publication. Authors are urged to review chapters 3 and 4 in the “CBE Style Manual” (CBE Style Manual Committee 1994) and “Writing with Precision, Clarity, and Economy” by Mack (1986). Manuscripts should be direct and concise. Many common problems may be avoided by use of a carefully prepared outline to guide manuscript writing. Other helpful suggestions are presented by Strunk and White (1979), Day (1983), and Batzli (1986).

The most common error in manuscripts is use of passive voice. Use first person and active voice throughout the entire manuscript to avoid superfluous or unclear wording. For example, instead of writing “false absences were estimated” write, “we estimated false absences.” Review the list of commonly misused words (Table 2) before preparing your manuscript.

Equations

The following items must be typed as text: (1) characters with simple subscripts or superscripts, (2) Greek letters (use insert symbol option in Word), (3) display equations that have only the above listed characteristics and no fractions. Inline equations using division should use “/” instead of stacking above and below a horizontal line. Otherwise, they should be submitted as display equations. It is permissible to use the following: (1) characters that have hats or expressions that would not translate well into straight text; and (2) sums and similar statements.

Numbers and Unit Names

Use digits for numbers (e.g., 7 and 45) unless the number is the first word of a sentence, where it is spelled out. Use symbols or abbreviations (e.g., % and kg) for measurement units that follow a number unless the number is indefinite (thousands of hectares), is a “0” (zero) standing alone, or is the first word in a sentence. In such cases spell out the number and unit name or recast the sentence. Avoid using introductory phrases such as “A total of” Spell out numbers used as pronouns (i.e., one) or adverbs and ordinal numbers (e.g., first, second). However, use digits for cases such as 3-fold and 2-way. Convert fractions (e.g., 1/4, 1/3) to decimals except where they misrepresent precision.

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

Time and Dates

Use the 24-hour system: 0001 through 2400 hours (midnight). Date sequence is day month year, without punctuation (e.g., 21 June 2005). Do not use an apostrophe for plural dates (e.g., 1970s). Spell out months except in parentheses, tables, and figures, in which 3-letter abbreviations are used with no period (e.g., 31 Mar 1947, Appendix B).

Mathematics and Statistics

Use italic font for Roman letters used as symbols for quantities (e.g., *n*, *x*, *F*, *t*, *Z*, *P*, and *X*). Do not underline or italicize numbers, Greek letters, names of trigonometric and transcendental functions, or certain statistical terms (e.g., ln, e, exp, max, min, lim, SD, SE, CV, and df). Use bold font for items that should be set in boldface type.

Insert a space on both sides of symbols used as conjunctions (e.g., $P > 0.05$), but close the space when 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. Break long equations for column-width printing (67 mm) if they appear in the main body of the manuscript; long equations and matrices can be printed page-width (138 mm) in appendices. Swanson (1974) or the CBE Style Manual Committee (1994:206-218) should be followed for general guidance, and MacInnes (1978) for advice on presentation of statistics. Authors are urged to read Tacha et al. (1982) and Wang (1986) for reviews of common statistical errors. Authors should consider statistical power when judging their results (*JWM* 59:196–198).

Abbreviations and Acronym

Metric units, their appropriate prefixes, and abbreviations identified by an asterisk in Appendix B may be used in the text. All other abbreviations or acronyms (except DNA) used in the Abstract or text must be defined the first time used (e.g., Bureau of Land Management [BLM]). Acronyms established in the Abstract should not be reestablished 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 and B may be used within parentheses.

Punctuation

Use a comma after the next-to-last item in a series of >3 items (e.g., red, black, and blue).

Write clearly enough so that you do not need to put quotation marks around words or phrases unless they are direct quotations. Do not hyphenate prefixes, suffixes, or combining forms unless necessary to avoid confusion. 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-bird study vs. a study of small birds); (2) a modifier containing a number is usually hyphenated (e.g., 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).

Closing quotation marks are always placed after periods and commas, but they may be placed either before or after other punctuation (CBE Style Manual Committee 1994:177–181). Fences 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 [CBE Style Manual Committee 1994:58–59]).

Enumerating Series of Items

When enumerating series a colon must precede the numbered items unless preceded by a verb or preposition. For presentation of a simple series, place numbers within parentheses (see example in KEY WORDS section). 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 example in TABLES section).

Gender

Refer to gender as male and female. Do not refer to gender as buck, doe, or other jargon.

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*], white-tailed deer [*Odocoileus virginianus*]). Scientific names should follow the first mention of a common name, except in the title. If a scientific name is given in the abstract, do not repeat it in the text or tables. Scientific names following common names should be in italic font in parentheses with the first letter of the genus upper-case 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; e.g., we studied snow geese (*Chen caerulescens*) and Ross' geese (*C. rossii*).

Do not use subspecies names unless essential and omit taxonomic authors names. Use "sp." (singular; not italicized) or "spp." (plural) to indicate that the identity of species within a genus was unknown; e.g., the field was bordered by willow (*Salix* sp.) and we trapped several species of mice (*Peromyscus* spp.). Use the most widely accepted nomenclature where disagreement occurs. As general references for birds, use the most current edition of The American Ornithologists' Union Check-list (e.g., 1997) and periodic supplements published in *Auk*. For mammals, use Whitaker (1996). For plants there is no single reference for North America; we recommend citing the most widely accepted regional flora reference (e.g., in northwestern states, Hitchcock and Cronquist [1973]). 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. Use English units (or, rarely, another type of scientific unit) in parentheses following a converted metric unit only in cases that may misrepresent (1) the statistical precision of the original measurement or (2) the correct interpretation of the results. However, these non-SI units are permitted:

area -- hectare (ha) in lieu of 10^4 m^2 ;

energy -- calorie (cal) in lieu of Joule (J);

temperature -- Celsius (C, without degree symbol) in lieu of Kelvin (K);

time -- minute (min), hour (hr), day, seconds (sec);

volume -- liter (L).

The CBE Style Manual Committee (1994:200–205) provided definitions of SI units and prefixes and listed 9 references. The American Society of Testing Materials (1979) included many conversion factors.

CITING LITERATURE IN TEXT

In most cases, reference citations parenthetically at the end of a sentence; e.g., mallard brood survival was higher in the wettest years (Rotella 1992). Do not make the citation the subject of the sentence. Published literature is cited by author and year; e.g., Jones (1980), Jones and White (1981). With ≥ 3 authors use “et al.”; 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 and put these in chronological order; 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., (Jones 1980*a,b*; Hanson 1981; White 1985, 1986). For citations in a series with the same year, use alphabetical order within chronological order; e.g.,

(Brown 1991, Monda 1991, Rotella 1991, Allen 1995). Do not give >6 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., we used Neyman allocation to minimize variance (Krebs 1989:216). Use the same style for a book or other lengthy publication unless the reference is to the entire publication; e.g., Odum (1971:223). Cite documents that are cataloged in major libraries, including theses and dissertations, as published literature. This includes symposia proceedings, workshops, and U.S. Government reports that have been widely distributed. However, cite such references as unpublished if they are not easily available. Cite unpublished information parenthetically within the text in the following forms: (J. G. Jones, National Park Service, personal communication), (D. F. Brown, Arizona Game and Fish Department, unpublished data), (D. E. Timm. 1977. Annual Waterfowl Report, Alaska Department of Fish and Game, Juneau, Alaska, USA).

A manuscript accepted for publication is cited as a published manuscript in the text using the anticipated publication year. In the Literature Cited, show the year after the name(s) of the author(s) and “in press” after the volume number (see below). Do not cite manuscripts that are in review; use the unpublished style listed above.

LITERATURE CITED STYLE

Type the LITERATURE CITED double-spaced immediately following the text. Spell out all words in the LITERATURE CITED (i.e., do not use abbreviations). However, the following 3 exceptions are allowed in author and publisher addresses: (1) Washington D.C., (2) “U.S.” (e.g., U.S. Forest Service), and (3) “USA”. Alphabetize by author’s surname(s), regardless of the number of multiple authors for the same publication. Within alphabetical order the sequence is chronological.

Use large- and small-capital letter for all names in LITERATURE CITED, 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 1 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 multiple citations with the same author(s), use a 5-space line to replace the author's name(s) after the first citation. For serial publications, show the issue number only if the pages of each issue are numbered separately. Omit unnecessary words, but do not remove a conjunction if the meaning may be changed (e.g., Game and Fish vs. Game Fish). Do not repeat the state in the citation if it is included earlier in the address (e.g., Texas A&M University, College Station, USA). As in the text, spell out ordinal numbers (e.g., Third edition). Use the words 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. For foreign language publications, note the language of publication at the end of the citation in brackets (e.g., [In Spanish.]).

To document a file available for viewing and downloading via the World Wide Web, provide the following information: author's name (if known), date of publication or last revision, title of document, title of complete work (if relevant), web address (in angle brackets), and date of access. Please review the following examples.

Book -- More than 1 Edition

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

Book -- More than 1 Volume

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

Book -- Editor as Author

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

Book – 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.

Foreign Language Publication

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

Government Publication

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

CARPENTER, L. H., R. B. GILL, D. REICHERT, AND O. C. WALLMO. 1974. Middle Park deer study – experimental range fertilization. Colorado Fish and Game Department, Federal Aid in Wildlife Restoration, Project W-38-R-28.

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. U.S. Fish and Wildlife Service Resource Publication 125.

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 parenthetically as (National Research Council 1977). For additional examples, see the LITERATURE CITED section of this manuscript.

Journals -- General Format

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

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.

Journals in Press -- Year and Volume Unknown

GIUDICE, J. H., AND J. T. RATTI. In press. Biodiversity of wetland ecosystems: review of status and knowledge gaps. *Bioscience*.

Multiple Citations of the Same Author(s)

PEEK, J. M. 1963. Appraisal of a moose range in southwestern Montana. *Journal of Range Management* 16:227–231.

_____. 1986. A review of wildlife management. Prentice-Hall, Englewood Cliffs, New Jersey, USA.

_____, 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.

_____, _____, AND R. A. ROUSE. 1967. Population changes within the Gallatin elk herd, 1932–1965. *Journal of Wildlife Management* 31:304-316.

_____, AND R. A. ROUSE. 1966. Preliminary report on population changes within the Gallatin elk herd. *Wildlife Science* 82:1298–1316. (Note: fictitious citation used for example only.)

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.

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 workshop on management of southern forests for nongame birds. U.S. Forest Service General Technical Report SE-14.

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.

Theses or Dissertations

Heydlauff, A. 2003. Perceptions of elk and elk management in northern Arizona. Thesis, University of Arizona, Tucson, USA.

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

Web Citation -- Professional Site

[CBE] Council of Biology Editors. 5 Oct. 1999. CBE home page. <<http://www.councilscienceeditors.org>>. Accessed 7 Oct 1999.

Web Citation -- Article in an Electronic Journal (ejournal)

BROWNING, T. 1997. Embedded visuals: student design in Web spaces. *Kairos: A Journal for Teachers of Writing in Webbed Environments* 3(1). <<http://english.ttu.edu/kairos/2.1/features/browning/bridge.html>>. Accessed 21 Oct, 1997.

Web Citation -- Government Publication

BUSH, G. 12 Apr 1989. Principles of ethical conduct for government officers and employees. Executive Order 12674. Part 1. <<http://www.usoge.gov/exorders/eo12674.html>>. Accessed 18 Nov 1997.

WM chapter

Jansen, B. D. 2006. Chapters in monographs. Pages 10-11 in P. R Krausman, J. W. Cain III, and B. D. Jansen. Manuscript guidelines for *Wildlife Monographs*. *Wildlife Monographs* 170.

Unpublished but Titled Papers

These are not literature and should not be listed in the Literature Cited section. When used, they should be cited parenthetically within the text and include initials, last name, agency, title and year; (i.e., J. W. Cain III, University of Arizona, Water balance in desert ungulates, 2003). Subsequent references to this reference in the text should be (J. W. Cain III, 2003).

TABLES AND FIGURES

Submit only essential tables and figures. Often tables overlap with presentation in the text, or the information can be easily printed 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. Reference tables and figures parenthetically, and 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 and their titles should be able to stand alone (e.g., self-explanatory). Avoid reference to the text, and be sure the title includes the species or subject of the data and where and when data were collected. Do not include statistics (e.g. *p*-values) or other statements of results in the titles. 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

Create tables as tabbed columns rather than using the “Table” format of your word processor. If you do use the table format, use 1 line of text/row without the line breaking.

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. Day (1983) presents a practical discussion of tables.

For data that must be shown in a table, items that provide the most important comparisons usually read vertically, not horizontally. Construct tables for column-width (67 mm) printing. If the table will not fit in 1 column width, construct it for page-width printing not wider than 23 cm (9 inches). Some extra-wide tables can be printed vertically (e.g., *JWM* 50:192, 51:461), but such tables usually waste space. Extra-long and extra-wide tables require persuasive justification.

Table titles may vary, 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, No./ha, M:100 F, or %), (3) name of organism or other entity measured (e.g., “of Canada geese”), and (4) location and date. 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)." The title should not include statistics or statements of results (e.g., *P*-values).

Avoid beginning the title with superfluous words (e.g., The, Summary of, and Comparisons between) and words that can be presented parenthetically as symbols or abbreviations (e.g., %). Symbols such as *n* and % in the title seldom need repetition in table headings. Do not use abbreviations in table title, except within parentheses. However, use standard abbreviations and symbols (Appendix B) in the table body and in footnotes. The lines printed in tables are called rules, and *WM* standards are:

1. None drawn vertically within the table.
2. Three rules across the entire table: below the title, below the column headings, and at the bottom. Type each as a single, continuous line.
3. Use rules that straddle subheadings within the column heading (e.g. *JWM* 50:48).
4. None to show summation; use "Total" or equivalent in the row heading.
5. Do not use rules to join the means in multiple-range tests. Use Roman upper-case letters instead of rules (e.g., 12.3A^a, 16.2A, and 19.5B) where the superscript "a" references a footnote such as "aMeans with the same letters are not different (*P* > 0.10)" (*JWM* 50:22). Upper-case letters may be used in a similar fashion to reference the relationship of data among columns (e.g., *JWM* 50:371).

In column headings use straddle rules liberally to join related columns and reduce wordage (e.g., *JWM* 50:31). Label columns to avoid unnecessary print in the data field. For example, instead of "*x* ± SE," label *x* and SE separately so that ± need not be printed. Similarly, label sample size columns "*n*" instead of using numbers in parentheses in the data field. Keep column- and row-heading words out of the data field. Type main headings flush left,

and indent their subheadings (e.g., *JWM* 50:86). For column- and row-headings, only capitalize the first word and proper nouns (e.g., No. of times detected in Nevada), 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. 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 $P < 0.001$.

For footnote superscripts use asterisks for probability levels and lower-case Roman (not italic) letters for other footnotes. Use this sequence for placing letters alphabetically: in the title, then left-to-right, and then down. Make 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. Footnotes may be used to reduce cluttering the title and table with details. The most common errors in tables are single spacing, incomplete titles, naked decimal points, and ambiguous or unnecessary characters in the data field.

Figures

Most figures are either line (or computer) drawings or pictures (picture is used to distinguish scene or object photographs from photos of drawings). If possible, photographic prints should not exceed 20 x 25 cm. Consult Allen (1977), the CBE Style Manual Committee (1994:693–699), and Day (1983) for additional guidance. Hard copies of figures must be sent, but also send electronic versions as uncompressed bitmapped (e.g., tif, .bmp), JPEG postscripts (e.g., eps, .ps). Resolution should be between 300 and 600 dpi at full size. For full size “full

size” means final, column size. If you have imported or embedded graphics into Word, Wordperfect, Powerpoint, or other word processing or slide presentation files, to add text or other art, please include the original graphic file.

Type all figure captions on 1(or more) page(s). Figure titles tend to be longer than table titles because figures are not footnoted. The title may be several sentences and include brief suggestions for interpreting the figure content. The title should not include statistical results.

Pictures--A picture for the frontispiece (to be included in front of the title page and titled) must have sharp focus in the most important parts of the image, have high tonal contrast, and have a reference scale if size is important. Letters, scales, or pointers can be drawn on the prints, but they must be of professional quality. Sets of 2-4 related pictures can be handled as 1 figure if prints are the same width and will fit in a space 67 x <170 mm when reduced for printing. Do not submit color prints unless you are able to pay for printing at approximately \$900/page (as of 2005).

Line Drawings.--Consider whether a drawing can be printed column width (67 mm) or is so detailed that it must be printed page width (138 mm). The difference depends mainly on size of characters and lengths of legends drawn on the figure. If page width is necessary, consider omitting some of the detail, and look for ways to shorten legends. Column-width figures are preferred (e.g., *JWM* 50:145).

Before revising the first sketch, determine the minimum height for letters, numbers, and other characters, which must be ≥ 1.5 mm tall after reduction for printing. Determine width (mm) for the revised sketch. To determine the minimum height (mm) for characters, multiply the width by 0.0224 for column-width printing or 0.0109 for page-width printing. If in doubt as to printed width, use the column-width multiplier. The product is the minimum height (mm). Plan to use

at least the next larger character height available. Hand-drawn lines and lettering and typewriter characters are not acceptable. We recommend professionally prepared line drawings.

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 and most metric units (see subsection on Math. and Stat. and Appendix B). Identify arbitrary symbols by legend within the figure (preferred) or, for those normally available to the printer (e.g., CBE Style Manual Committee [1994:693–699]), in the figure title.

REVIEW PROCESS

Manuscripts are submitted to the Editor who selects 2-3 Consulting Editors. Consulting Editors serve the same role as reviewers for *JWM* but are instructed to work directly with the authors to assist with revision if they agree the work is acceptable. The Consulting Editors may or may not discuss the *WM* with authors. After they prepare their suggestions the manuscript is returned to the Editor. The Editor reviews the manuscript and comments from the Consulting Editors to arrive at 1 of 3 general conclusions: publish with minor revision, publish with major revision, or rejection. In some cases the submitted manuscript will contribute to the literature but will be too short for a *WM* after revision. In those cases the Editor of *WM* will work with the Editor-in-Chief of the *JWM* and the author to assign the paper to *JWM* for further consideration.

In all cases, the Editor contacts the corresponding author directly with a final decision that includes the Consulting Editors comments and (if appropriate) recommendations for revision. Several revisions may be necessary before the Consulting Editor decides to recommend rejection or acceptance. Manuscripts returned to authors for revision must be resubmitted as a revision within 6 months or the manuscript will be rejected, requiring resubmission as a new paper. Final acceptance or rejection of manuscripts is decided by the Editor. Typically, the Editor follows the

Consulting Editor's recommendation. However, the Editor may reconsider manuscripts that have been rejected by a Consulting Editor if a request is accompanied by a convincing rebuttal letter.

Once a manuscript is accepted, authors need to provide a non-pdf version (Word, Text, or RTF) for copyediting purposes if you have not done so already; this non-pdf version does not need to include tables or figures. The time span between submission and final decision to accept or reject averages 6 months, but it can vary from 1 to 20 months depending on the number of revisions required and the time manuscripts are held by Consulting Editors and authors. After the final, copyedited version of a manuscript is received by the Editor, it enters the queue for publication and usually is printed within 6–12 months of the final acceptance date.

LITERATURE CITED

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AMERICAN ORNITHOLOGISTS' UNION. 1997. Check-list of North American birds. Seventh edition. Allen Press, Lawrence, Kansas, USA.

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(**Note:** Many citations that were used in the guidelines text as examples do not appear in the Literature Cited section above.)

Table 1. Common expressions with superfluous words. ^a

Superfluous wording	Suggested substitute
the purpose of this study was to test the hypothesis	I (or we) hypothesized
in this study we assessed	we assessed
we demonstrated that there was a direct	we demonstrated direct
were responsible for	caused
played the role of	were
on the basis of evidence available to date	consequently
in order to provide a basis for comparing	to compare
as a result of	through, by
for the following reasons	because
during the course of this experiment	during the experiment
during the process of	during
during periods when	when
for the duration of the study	during the study
the nature of	(omit by rearrangement)
a large (or small or limited) number of	many (or few)
conspicuous numbers of	many
substantial quantities	much
a majority	most
a single	one
an individual taxon	a taxon

Table 1. Continued.

Superfluous wording	Suggested substitute
seedlings, irrespective of species	all seedlings
all of the species	all species
various lines of evidence	evidence
they do not themselves possess	they lack
were still present	persisted, survived
the analysis presented in this paper	our analysis
indicating the presence of	indicating
despite the presence of	despite
checked for the presence of	checked for
in the absence of	without
a series of observations	observations
may be the mechanism responsible for	may have caused
it is reasonable to assume that where light is not limiting	with light not limiting
in a single period of a few hours	in a few hours
occur in areas of North America	are in North America
adjacent transects were separated by at least 20 m	≥20 m apart
in the vicinity	nearby

Table 1. Continued.

Superfluous wording	Suggested substitute
separated by a maximum distance of 10 m and a minimum distance of 3 m	3-10 m apart
the present day population	the population
their subsequent fate	their fate
whether or not	whether
summer months	summer
are not uncommon	may be
due to the fact that	(omit by rearrangement)
showed a tendency toward higher survival	had higher survival
devastated with drought-induced desiccation	killed by drought

^aMack (1986:33). Reprinted with permission from the Ecological Society of America.

Table 2. Words that commonly need correction in The Wildlife Society manuscripts.^a

Word and proper usage

accuracy (see precision): extent of correctness of a measurement or statement.

affect (see effect): verb, to cause a change or an effect; to influence.

among (see between): use in comparing >2 things.

between (see among): use in comparing only 2 things.

cf.: compare

circadian: approximately 24 hours.

continual: going on in time with no, or with brief, interruption.

continuous: going on in time or space without interruption.

diurnal: recurring every 24 hours; occurring in daylight hours.

effect (see affect): usually a noun, the result of an action; as an adverb (rare), to bring about or cause to exist, or to perform.

e.g. (see i.e.): for example.

enable (see permit): to supply with means, knowledge, or opportunity; to make possible.

ensure (see insure): to make certain or guarantee.

farther: more distant in space, time, or relationship.

further: going beyond what exists, to move forward.

i.e. (see e.g.): that is.

incidence (see prevalence): number of cases developing per unit of population per unit of time.

insure (see ensure): to assure against loss.

livetrapping: verb.

Table 2. Continued.

Word and proper usage

live trap: noun.

logistic: symbolic logic.

logistics: operational details of a project or activity.

mass (see weight): proper international use for measures of mass.

ovendry: adjective.

oven-dry: verb.

percent: adjective, adverb, or noun. Spell out only when the value is spelled out or when used as an adjective. Use “%” with numerals.

percentage: noun, part of a whole expressed in hundredths; often misused as an adjective, e.g., percent error, not percentage error.

permit (see enable): to allow, to give formal consent.

precision (see accuracy): degree of refinement with which a measurement is made or stated; e.g., the number 3.43 shows more precision than 3.4, but is not necessarily more accurate.

prevalence (see incidence): number of cases existing per unit of population at a given time.

sensu: as understood or defined by; used in taxonomic reference.

since: from some past time until present; not a synonym for “because” or “as.”

presently: in the future, not synonymous with “at present” or “currently.”

that (see which): pronoun introducing a restrictive clause (seldom immediately preceded by a comma).

usage: firmly established and generally accepted practice or procedure.

Table 2. Continued.

Word and proper usage

utilization, utilize: avoid by using “use” instead.

proper usage

various: of different kinds.

varying: changing or causing to change. Do not use for different.

very: a vague qualitative term; avoid in scientific writing.

weight (see mass): should seldom be used.

viz: namely.

which (see that): pronoun introducing a nonrestrictive clause (often preceded by a comma or preposition [for, in, or of which]).

while: during the time that. Use for time relationships but not as synonym for “whereas,” “although,” and “similarly,” which do not imply time.

^aAdapted in part from CBE Style Manual Committee (1994:123–125); also see Day (1983:140–142).

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

Unit	ANSI	USPS	Unit	ANSI	USPS
U.S. and territories			U.S. and territories (continued)		
Alabama	Ala.	AL	Oklahoma	Okla.	OK
Alaska	Alas.	AK	Oregon	Oreg.	OR
American Samoa	Am. Samoa	AS	Pennsylvania	Pa.	PA
Arizona	Ariz.	AZ	Puerto Rico	P.R.	PR
Arkansas	Ark.	AR	Rhode Island	R.I.	RI
California	Calif.	CA	South Carolina	S.C.	SC
Canal Zone		CZ	South Dakota	S.D.	SD
Colorado	Colo.	CO	Tennessee	Tenn.	TN
Connecticut	Conn.	CT	Texas	Tex.	TX
Delaware	Del.	DE	Trust Territory	Trust Territ.	TT
District of Columbia	D.C.	DC	Utah	Ut.	UT
Florida	Fla.	FL	Vermont	Vt.	VT
Georgia	Ga.	GA	Virginia	Va.	VA
Guam		GU	Virgin Islands	V.I.	VI
Hawaii	Haw.	HI	Washington	Wash.	WA

Appendix A. Continued.

Unit	ANSI	USPS	Unit	ANSI	USPS
Idaho	Id.	ID	West Virginia	W.Va.	WV
Illinois	Ill.	IL	Wisconsin	Wis.	WI
Indiana	Ind.	IN	Wyoming	Wyo.	WY
Iowa	Ia.	IA			
Kansas	Kans.	KS	Canadian provinces and territories		
Kentucky	Ky.	KY	Alberta	Alta.	AB
Louisiana	La.	LA	British Columbia	B.C.	BC
Maine	Me.	ME	Manitoba	Manit.	MB
Maryland	Md.	MD	New Brunswick	N.B.	NB
Massachusetts	Mass.	MA	Newfoundland	Newf.	NF
Michigan	Mich.	MI	Northwest	Northwest	
Minnesota	Minn.	MN	Territories	Territ.	NT
Mississippi	Miss.	MS	Nova Scotia	N.S.	NS
Missouri	Mo.	MO	Ontario	Ont.	ON
Montana	Mont.	MT	Prince Edward	Prince Edward	
Nebraska	Nebr.	NE	Island	Isl.	PE
Nevada	Nev.	NV	Quebec	Que.	PQ
New Hampshire	N.H.	NH	Saskatchewan	Sask.	SK

Appendix A. Continued

Unit	ANSI	USPS	Unit	ANSI	USPS
New Jersey	N.J.	NJ	Yukon Territory	Yukon Territ.	YT
New Mexico	N.M.	NM			
New York	N.Y.	NY	Other		
North Carolina	N.C.	NC	United States	U.S.	
North Dakota	N.D.	ND	New Zealand	N.Z.	
Ohio	Oh.	OH	United Kingdom		U.K.

Appendix B. Abbreviations commonly used in *WM* tables, figures, and parenthetical expressions. Only those metric units and their appropriate prefixes (CBE Style Man. Comm. 1994:202-205, 206-218) identified with an asterisk may be abbreviated in the text. A blank means do not abbreviate.

Term	Abbreviation or symbol	Term	Abbreviation or symbol
Adult	ad	Logarithm, base e	*Ln or log _e
Amount	amt	Logarithm, base 10	*log ₁₀
Approximately	approx	Male	M
Average	\bar{x}	Maximum	max.
Calorie	*cal	Meter	*m
Celsius	*C°	Metric ton	^t
Chi-squared	χ^2	Minimum	min.
Coefficient	coeff	Minute	*min
Coefficient of		Month	
correlation, simple	r	Month names	Jan, Feb, ...
multiple	R	More than	*>
determination, simple	r^2	Number (of items)	No.
multiple	R^2	observed	obs.
variation	CV	Outside diameter	o.d.
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

Appendix B. Continued.

Term	Abbreviation or symbol	Term	Abbreviation or symbol
Diameter breast height	dbh	Range	
Equation(s)	eq(s)	Second	*sec
Expected	Exp	Second	*sec
Experiment	exp.	Spearman rank correlation	r_s
Female	F	Square	sq
<i>F</i> ratio	<i>F</i>	Standard deviation (s)	SD
Gram	*g	Standard error ($s\bar{x}$)	SE
Gravity	<i>g</i>	Student's t	<i>t</i>
Hectare	*ha	Temperature	temp
Height	ht	Trace ^a	tr
Hotelling's T^2	T^2	Versus	vs.
Hour(s)	*hr	Volt	*V
Inside diameter	i.d.	Volume	vol
Joule	*J	Watt	*W
Juvenile	juv	Week	
Kilocalorie	*kcal	Weight	wt
Lethal dose, median	LD ₅₀	Wilcoxin test	<i>T</i>
Less than	*<	Year	yr

Appendix B. Continued.

	Abbreviation		Abbreviation
Term	or symbol	Term	or symbol
Limit	lim	Z-statistic	Z
Liter	*L		

^aDefine in a footnote (e.g., $tr = <1\%$).