

30 September 2008
Contact author
Affiliation
Address
806/555-1234; Fax: 806/555-5678
email address

RH: Chamberlain et al. • JWM Manuscript Guidelines

Journal of Wildlife Management Guidelines

MICHAEL J. CHAMBERLAIN¹, Editor-in-Chief, *Journal of Wildlife Management*, School of
Renewable Natural Resources, Louisiana State University, Baton Rouge, LA 70803,
USA

1 CARLY JOHNSON, Lead Editorial Assistant, *Journal of Wildlife Management*, Oregon State
2 University, Corvallis, OR, 97330, USA

3 **ABSTRACT** These guidelines present *Journal of Wildlife Management (JWM)* policies and
4 procedures for submitting, reviewing, and editing manuscripts. In 2007 peer-reviewed *Wildlife*
5 *Society Bulletin (WSB)* articles were combined with *JWM* articles to form the new *JWM*. These
6 guidelines address that transition and update the Guidelines of Block et al. 2007. Appendices
7 are included for assistance in on-line submittal (Appendix A), literature cited (Appendix B), and
8 required abbreviations (Appendix C).

9 **KEY WORDS** author, format, guidelines, instructions, manuscript, policy, style.

10 *The Journal of Wildlife Management: 00(0): 000-000, 200X*

11 Please note that the format of manuscripts submitted for review differs from the printed format
12 of published manuscripts. As of January 2007, *Journal of Wildlife Management (JWM)* and the
13 *Wildlife Society Bulletin (WSB)* merged to create the new *JWM*. Submit peer-reviewed
14 manuscripts to *JWM*, and submit peer-edited articles and obituaries to *The Wildlife Professional*,

¹ Email: mchamb2@lsu.edu

15 which is received as a The Wildlife Society (TWS) member benefit. *The Wildlife Professional*
16 submission guidelines are available at [http://www.wildlife.org/publications/index.cfm?](http://www.wildlife.org/publications/index.cfm?tname=wild_prof)
17 `tname=wild_prof`. Submit *Wildlife Monographs* electronically using the *JWM* Allen Track
18 website after corresponding with the *Wildlife Monographs* EIC. *Wildlife Monographs*
19 submission guidelines are available at [http://www.wildlife.org/publications/index.cfm?](http://www.wildlife.org/publications/index.cfm?tname=monographs)
20 `tname=monographs`.

21 Publishing a professional paper proceeds most smoothly if authors understand the policy,
22 procedures, format, and style of the outlet to which they are submitting a manuscript. These
23 instructions supersede all previous guidelines. Papers that clearly deviate from this format and
24 style may be returned for correction before review. We hope these guidelines will make that
25 unnecessary.

26 These Guidelines apply to all *JWM* submissions. For authors with experience and
27 knowledge of previous *JWM* or *WSB* guidelines, it may be helpful to identify and review
28 substantial changes. Fundamental changes include: 1) a submission section that outlines the
29 electronic submission process, 2) an equation box section that specifies acceptable in-text
30 equation box use, 3) detailed instructions about online references, and 4) unified formatting for
31 Literature Cited. Please review this document for many additional, minor changes.

32 **SUBMISSIONS**

33 Reviewers and editors judge each manuscript on data originality, concepts, interpretations,
34 accuracy, conciseness, clarity, appropriate subject matter, and contribution to existing literature.
35 Prior publication or concurrent submission to other refereed journals precludes review or
36 publication in *JWM* (see additional information in the Previous Publication section below).
37 Fisheries manuscripts are discouraged unless information is part of an account that mainly
38 concerns terrestrial vertebrates.

39 The *JWM* only accepts manuscripts submitted electronically via AllenTrack (AT). You
40 can register for an account (which will give you a homepage in AT), log in to an existing
41 account, submit a manuscript for review, and track the progress of your manuscript at
42 <http://jwm.allentrack.net/>. Before submitting a manuscript, see instructions on how to use AT
43 (Appendix A).

44 **Cover Letter**

45 Each publication is managed by an Editor-in-Chief (EIC). Direct cover letters to the Editor-in-
46 Chief (EIC) and provide information that bears on ethical and copyright considerations (Council
47 of Biology Editors [CBE] Style Manual Committee 1994:599–600) and other information that
48 might facilitate review and editing. Cover letters must indicate that your manuscript is submitted
49 for exclusive consideration by *JWM*. Without the exclusive consideration statement, the EIC
50 will not initiate review. The statement ensures that data and findings have not been published
51 previously or submitted elsewhere for simultaneous consideration.

52 **Previous Publication**

53 Guidelines for previous publication are flexible in certain instances, such as technical analyses of
54 findings published previously for lay audiences. Kendall (1981) elaborated on the seriousness of
55 dual publication, and *JWM* subscribes to these standards. If any portion of the manuscript has
56 been published or reported elsewhere, explain all similarities between information in the
57 manuscript and the other publication, and furnish a citation of such publications or manuscripts.
58 A paper is considered published if it:

- 59 1. Appears in a serial publication abstracted by *Biological Abstracts* or a similar reference
60 volume.
- 61 2. Appears in a book (including conference proceedings) printed in >500 copies and widely

62 distributed to libraries.

63 3. Has been published as part of a numbered series by an agency.

64 4. Is a symposium proceeding. The *JWM* will consider symposium proceedings on a case-
65 by-case basis. Contact the EIC for approval before submitting your symposia proceeding.

66 A paper is not considered published if it:

67 1. Is a thesis or dissertation, but these need to be cited in the manuscript (see Citing
68 Literature in Text below).

69 2. Is a brief abstract of a talk given at a meeting.

70 3. Is an unpublished report required by sponsors and not distributed as part of a numbered
71 series or in other ways that might result in accession by libraries.

72 **Page Charges**

73 Page charges are mandatory and the submitting author is required to acknowledge that she or he
74 accepts responsibility for page charges should the manuscript be accepted for publication. All
75 manuscripts are subject to page charges except Letters to the Editor and Book Reviews. Color
76 plate fees will be invoiced prior to production of page proofs.

77 **If any author is a member of The Wildlife Society, page charges are as follows:**

78 \$90 for the first 8 pages

79 \$150 for every page thereafter

80 \$650 per color plate

81 **If none of the authors is a member of The Wildlife Society, page charges are as follows:**

82 \$150 per page

83 \$650 per color plate

84 Visit The Wildlife Society website for membership information and rates
85 (http://joomla.wildlife.org/index.php?option=com_content&task=view&id=24&Itemid=36).

86 **Copyright**

87 If a manuscript not in the public domain is accepted for publication, authors or their employers
88 must transfer copyright to TWS. If the article is single authored by a U.S. government employee
89 as part of his/her official duties, it is understood that the article is not copyrightable. It is called a
90 “Work of the U.S. Government” and is in the public domain. However, if the article was not part
91 of the employee’s official duties, it may be copyrighted. If the article was jointly written by
92 government and nongovernment employees, the authors understand that they are delegating the
93 right of copyright to the nongovernment employee, who must sign the copyright agreement.
94 Manuscript submission implies entrusting copyright (or equivalent trust in public-domain work)
95 to the Editor until the manuscript is rejected, withdrawn, or accepted for publication. If
96 accepted, TWS retains copyright. Copyright forms are available at:

97 http://joomla.wildlife.org/index.php?option=com_content&task=view&id=43&Itemid=70.

98 **Freedom of Information Act**

99 The Freedom of Information Act (FOIA), Title 5 of the United States Code, section 552,
100 generally provides that any person has the right to request access to federal agency records or
101 information. All agencies of the U.S. Government are required to disclose records upon
102 receiving a written request, except those records that are protected from disclosure. If TWS or
103 JWM receives a FOIA request for information for any part of a manuscript that is under review
104 at JWM, the manuscript will be immediately rejected so the review process is not compromised.
105 Authors will not have the opportunity to resubmit the manuscript. The JWM encourages authors
106 to closely adhere to our Embargo Policy when discussing their paper before publication.

107 **Embargo Policy**

108 The Wildlife Society and Journal of Wildlife Management reserve the right to halt the
109 consideration or publication of a paper if the Embargo Policy is broken. The JWM Embargo
110 Policy follows:

- 111 • No news coverage of the paper can appear anywhere before 12:01 am (midnight) on the
112 issue mailing date. Embargoed information is not to be made public in any format
113 including print, television, radio, or via internet, before the embargo date. For
114 information on issue mail dates, please contact JWM staff (jwm@wildlife.org).
- 115 • Please do not participate in news conferences until after 1:00 p.m. Eastern U.S. Time the
116 day before publication.
- 117 • Authors with papers in production may speak with the press about their work. However,
118 authors should not give interviews on the work until the week before publication, and
119 then only if the journalist agrees to abide by the JWM embargo.
- 120 • Authors are welcome to present the results of their upcoming papers at professional
121 meetings to colleagues.
- 122 • Comments to press reporters attending your scheduled session at a professional meeting
123 should be limited to clarifying the specifics of your presentation. In such situations, we
124 ask that you do not expand beyond the content of your talk or give copies of the paper,
125 data, overheads, or slides to reporters.

126 **SUBJECT MATTER**

127 The *JWM* publishes manuscripts containing information from original research that contributes

128 to the scientific foundations of wildlife management. Suitable topics include the results and
129 interpretations of investigations into the biology and ecology of wildlife that can be used for
130 management. The link to management of wildlife resources must be clear and concise. The
131 *JWM* papers also address theoretical and conceptual aspects of wildlife management, including
132 development of new approaches to quantitative analyses, modeling of wildlife populations and
133 habitats, and other topics that are germane to advancing the science of wildlife management.
134 Methods and techniques papers are suitable for *JWM* only if they address new research methods
135 and techniques that pertain to wildlife management and science. We accept submissions to the
136 following sections:

137 1. *Management and Conservation*. These papers describe the effects of specific practices or
138 policies on populations of animals or plants. Examples include 1) effects of
139 agriculture, livestock, forest, or range management practices; 2) effects of practices
140 directed toward wildlife or its habitat, such as supplemental feeding, food plots or
141 food plantings, cover plantings, prescribed burning, brush or tree-canopy reduction,
142 soil disturbance, and habitats created by humans; 3) methods of reducing damage
143 caused by wildlife, including translocation, aversive conditioning, population
144 reduction, chemical application, scare device installation, and related practices; 4)
145 tests of harvest regulations or procedures or effects of harvest management on
146 populations; and 5) effects of private or governmental policy on wildlife.

147 2. *Human Dimensions of Wildlife Management*. These articles discuss sociology, values,
148 attitudes, perceptions, and psychology of natural resource stakeholders and managers.
149 Examples include: 1) contributions on political or legal issues, 2) special topics in
150 wildlife management, 3) environmental impacts, 4) refinement of state or federal natural

151 resource programs or policies, 5) administration of wildlife programs or agencies, 6)
152 regional or national surveys of wildlife management programs or policies, 7) social
153 movements affecting wildlife management, and 8) economics of wildlife management.

154 These articles also address the principles, logic, and ethics under which wildlife
155 managers and the profession operate. These articles may also address education of
156 natural resource stakeholders, hunter education, university curricula, and related topics.

157 3. *Techniques and Technology*. These manuscripts report a significant evaluation of, or
158 improvement upon, techniques used frequently in management (e.g., counting or
159 surveying populations to determine effects of management; sexing, aging, capturing, and
160 handling wildlife). We also welcome manuscripts that describe computer software that
161 has application to wildlife management and research.

162 4. *Student Voices*. These articles discuss issues of particular relevance to students within
163 the natural resources field or are award-winning or otherwise outstanding student-
164 authored essays. These articles are designed to provide students with opportunities to
165 express themselves in a prominent outlet used by professionals in their field.

166 5. *Commentaries and Remarks*. These articles are essays that question values, priorities,
167 precepts, and philosophical foundations under which wildlife management operates.
168 These articles can uncover dogma, false assumptions, and misguided policy or stimulate
169 thought and innovation. Commentaries are in response to an issue, movement, policy,
170 or program that could impact wildlife or its habitat, and subject area can be broad. The
171 manuscript must be well documented and prepared professionally. The purpose of this
172 feature is to get important information in print in a timely fashion. The EIC appoints an
173 Associate Editor for these articles.

174 6. *Letter to the Editor*. The EIC has the option to solicit invited papers that review and
175 synthesize important topics that pertain to the scientific foundations of wildlife
176 management. However, we encourage anyone to contact the EIC with potential topics
177 and author(s). Invited Papers must include a management implications section, are not
178 necessarily subject to peer review, and are not subject to page charges.

179 7. *Book Reviews*. Book reviews provide a brief synopsis and commentary on a book
180 relevant to some aspect of the natural resources field.

181 **Replication of Treatments**

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

186 **FORMAT AND STYLE**

187 Manuscripts must adhere to *JWM* guidelines before they will be approved and sent out for
188 review.

189 **Manuscript Types**

190 The *JWM* and *Wildlife Monographs* consider manuscripts of varying lengths. The page numbers
191 noted below include Literature Cited, tables, and figures. All text must be double-spaced in
192 Times New Roman font. Select from the following submission options based on the length of
193 your manuscript:

194 1. ≤ 20 pages: *JWM* Research Note. Notes provide an outlet for publication of information
195 that is relevant and important, but that is lacking in spatial or temporal replication.
196 Notes are not designed to serve as an outlet for publication of research that lacks

197 appropriate scope or is better suited for regional or other outlets. Notes may be
198 submitted to the following sections: Management and Conservation, Human
199 Dimensions of Wildlife Management, Techniques and Technology, and Student
200 Voices.

201 2. 21–50 pages: *JWM* Research Article. Articles may be submitted to the following
202 sections: Management and Conservation, Human Dimensions of Wildlife
203 Management, Techniques and Technology, and Student Voices.

204 3. 51–79 pages: *JWM* Article or Wildlife Monograph. The *JWM* EIC will decide on the
205 appropriate submission venue for these manuscripts on a case-by-case basis.

206 4. >80 pages: Wildlife Monograph.

207 **Page Format**

208 Upload files in the following order:

- 209 1. Cover letter
- 210 2. Text arranged as follows: manuscript text, Literature Cited, figure captions (not
211 figures), and tables.
- 212 3. Figure(s) compiled into one file or submitted in individual files. Label and mount
213 figure parts (e.g., Fig 3A, Fig 3B) together into a single figure as they are meant to
214 appear in print. Failing to do so may result in additional charges during typesetting.

215 Allen Track converts all submitted files to PDF files for initial evaluation and review. To ensure
216 accurate conversion of manuscripts, we only accept text and table files in the following formats:

217 Word, html, and rtf. We only accept figure files in the following formats: .tif, .jpg, .pdf, .eps,
218 .xls, and .ppt.. Do not submit files in Word Perfect, including equations that were not created

219 within the standard Word template. We cannot accept .docx files. We recommend creating
220 equations using older versions of Word. Equations formatted in .docx cannot be automatically
221 converted to .doc equations.

222 *General guidelines:*

- 223 1. Double space all text, including title, authors' addresses, text, long quotations within text,
224 literature citations, table footnotes, table titles, table bodies, and figure titles.
- 225 2. Do not break (hyphenate) words on the right margin.
- 226 3. Do not justify the right margin.
- 227 4. Use Times New Roman font, 12-point type throughout the manuscript, including title and
228 headings.
- 229 5. Italicize words or symbols, such as scientific names and mathematical symbols that
230 should appear italicized in print.
- 231 6. Do not use italic or boldface type for emphasis.
- 232 7. Maintain margins of 2.5 cm (1 inch) on all sides of the page.

233 **Title Page: Running Head, Title, and Authors**

234 The following guidelines apply to all text files. On page 1 single-space the following information
235 in the upper left corner: date (update with each revision) and the corresponding author's name,
236 address, telephone, fax, and e-mail (as in this document). Thereafter, double-space all text
237 including authors' addresses, the title of the paper, figure legends, and tables. If the
238 corresponding author's email address changes following submission of the manuscript, update
239 the user profile on the AT website, and notify the editorial staff.

240 Type the running head (RH) on the first line following the correspondent's address. The
241 RH is limited to 45 characters. Left-justify the RH and capitalize each important word (e.g.,
242 "Implanting Transmitters in Snakes"). The RH is preceded by a dot (or raised period) and the

243 last name(s) of ≤ 2 authors. For ≥ 3 authors, use the name of the first author followed by “et al.”
244 (e.g., Foster et al.). For example:

245 RH: Chamberlain et al. • JWM Manuscript Guidelines

246 The title follows the RH and is left-justified in bold font, sentence-case letters, with
247 important words capitalized as in the RH. The title identifies manuscript content and may not
248 include abbreviations, acronyms, or punctuation. Titles should not exceed 10 words unless doing
249 so forces awkward construction. Do not use scientific names in the title except for organisms
250 that do not have, or are easily confused by, common names. Do not use numbers in titles or the
251 RH.

252 Authors' names are left-justified in all capital letters. Each name is followed by the
253 author's affiliation in sentence-case, italic letters. The affiliation is usually where the author was
254 employed during the study. Indent the second and subsequent lines of an author's address 5
255 spaces using the hanging indent function. In each address, use available United States Postal
256 Service (USPS) abbreviations, zip codes, and the country (abbreviate “USA,” but spell out all
257 others). See the following websites for USPS abbreviations: <http://www.usps.com/ncsc/lookups/abbreviations.html#states> and <http://canadaonline.about.com/library/bl/blpabb.htm>. Write out
258 words like Street, Avenue, and Boulevard, but abbreviate directions (e.g., N. and N.W.). For
259 multiple authors with the same address, repeat the address after each author's name.
260

261 **Footnotes**

262 Insert footnotes using the footnote function. Footnotes may only be used to note an author's
263 email address, to reference the present address of an author when it differs from the byline
264 address, and to indicate a deceased author. Each footnote starts with a numerical superscript.
265 Incorporate endorsement disclaimers and pesticide warnings in the text. For information on table
266 footnotes, see the Tables section.

267 **Abstract**

268 Begin with the word “**ABSTRACT**” (left-justified) in bold font. The abstract text begins after a
269 regular letter space on the same line and is a single paragraph not exceeding 1 line per page of
270 text (3% of length of text), including Literature Cited. Research Note abstracts cannot exceed 1
271 line per 2 pages, including Literature Cited. The abstract includes:

272 1) Problem studied or hypothesis tested. Identify the problem or hypothesis and explain why
273 it is important. Indicate new data, concepts, or interpretations directly or indirectly used
274 to manage wildlife.

275 2) Pertinent methods. State methods used to achieve the results summarized in the Results
276 (keep the methods brief unless a new, greatly improved method is reported).

277 3) Results. Emphasize the most important results, positive or negative.

278 4) Utility of results. Explain how, when, where, and by whom data or interpretations can be
279 applied to wildlife problems or contribute to knowledge of wildlife science.

280 **Key Words**

281 Key words follow the abstract. The phrase “**KEY WORDS**” (left-justified, typed in bold font) is
282 followed by a regular space and ≤ 10 key words in alphabetical order, ending with a period.

283 Include some words from the title and others that identify: 1) common and scientific names of
284 principal organisms in the manuscript; 2) the geographic area, usually the state, province, or
285 equivalent, or region if its name is well known; 3) phenomena and entities studied (e.g.,
286 behavior, populations, radiotelemetry, habitat, nutrition, density estimation, reproduction); 4)
287 methods (only if the manuscript describes a new or improved method); and 5) other words not
288 covered above but useful for indexing. After key words, right justify the Journal name and place
289 holders for publication information in bold font.

290 For example:

291 **KEY WORDS** author, format, guidelines, instructions, manuscript, policy, style.

292 *The Journal of Wildlife Management: 00(0): 000–000, 200X*

293 **Text Pages**

294 Using the Header function, insert page numbers and author name(s) (e.g., Smith, Smith and
295 Jones, Smith et al.) on all pages following the title page. These notations help keep the
296 manuscript sections together during reviewing, editing, and typesetting. Number each line of the
297 text continuously (i.e., do not restart numbering on each page).

298 **Headings**

299 Examples of the 3 heading types follow:

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

302 **STUDY AREA**

303 2. Second-level heading: bold type, flush left, with important words capitalized. Text follows
304 flush left on the succeeding line. For example:

305 **Burrow Availability Hypothesis**

306
307 3. Third-level heading: indented 5 spaces, italicized, and followed by a period and em dash.

308 Text follows directly after the heading on the same line. For example:

309 *Assessment of available natural burrows.*— Begin paragraph text here.

310 Under a first-level heading, use only third-level headings if the subsections are short (≤ 2
311 paragraphs). Avoid repeating exact wording of the heading in the text following second- and
312 third-level headings. Use first-level heading for appendix titles.

313 **Major Sections of Manuscript**

314 The introduction (no heading) starts below the publication name and contains a concise synthesis
315 of literature specific to the manuscript's main topic. In the latter part of this section, state the
316 objectives of the study and the hypotheses tested.

317 Articles must include the following first-level headings: Abstract, Introduction (no

318 heading required), Study Area, Methods, Results, Discussion, Management Implications,
319 Acknowledgments, and Literature Cited. Notes must include the following headings: 1) first-
320 level headings: Abstract, Introduction (no heading required), Study Area, Methods, Results,
321 Discussion, and Literature Cited; 2) second-level headings: Management Implications and
322 Acknowledgments. No additional subheadings are allowed. It is not permissible to combine
323 Study Area and Methods or Results and Discussion. Merging these sections leads to superfluous
324 wording, unnecessary discussion, and confusion.

325 Use past tense for Study Area descriptions (e.g., average annual precipitation was 46 cm,
326 habitat was primarily grass). Exceptions include geological formations that have been present
327 for centuries (e.g., mountains). Methods should be brief and include dates, sampling schemes,
328 duration, research or experimental design, and data analyses. Write the Methods in the active
329 voice (i.e., write “We recorded age, sex, and mass...” and “We analyzed data using logistic
330 regression,” rather than “Age, sex and mass were recorded” or “Logistic regression was used”;
331 see Style and Usage section below). Cite previously published methods without explanation.
332 Identify new or modified methods and explain them in detail. Include animal-welfare protocols
333 in the Methods section (not in Acknowledgments). Include protocol numbers parenthetically
334 following the relevant statement.

335 Present Results in a clear, simple, concise, and organized fashion. Avoid overlapping text
336 with information in tables and figures; do not explain analyses that should have been described
337 in the Methods section. Always try to describe the magnitude of the biological effect in addition
338 to the results of statistical analyses. That is, terms such as “fewer” or “smaller” tell us little, and
339 stating that something was “statistically different ($P < 0.01$)” without giving the actual difference
340 conveys little meaning to the reader. For example, stating that “A was 25% larger than B ($P <$
341 0.001)” conveys more information than simply stating that “A was significantly larger than B.”
342 Present Results in past tense (e.g., body mass loss occurred during winter). Reserve comments

343 on interpretation of results for the Discussion.

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

351 The Management Implications section should be short (usually about 1 paragraph) and
352 direct but explain issues important to management and conservation that are derived directly
353 from or addressed in your results. Do not restate material from the Results or Discussion
354 sections, and do not make recommendations that are beyond the scope of your study. Address
355 specific management opportunities or problems in this section.

356 The Acknowledgments (note preferred spelling) section appears immediately before
357 Literature Cited. This section should be brief and include initials (rather than first names) of
358 individuals cited. Acknowledgments should be straightforward without ornate and qualifying
359 adjectives or personal remarks. For example: “We thank G. A. Baldassarre, M. Boyce, C. E.
360 Braun, H. E. Hodgdon, R. L. Lee, and M. Kirsch for review comments and contributions to this
361 manuscript. G. C. White assisted with revision of the mathematics and statistics subsection.
362 Portions of this manuscript have been extracted from Ratti and Ratti (1988) and Gill and Healy
363 (1980) with permission of The Wildlife Society. This is Contribution 836, University of Idaho
364 Forest, Wildlife, and Range Experiment Station. L. M. Smith was supported by the Caesar
365 Kleberg Foundation for Wildlife Conservation.”

366 **Literature Cited**

367 Refer to detailed instructions on how to format citations (Appendix B). Maintain double-spacing

368 and use hanging indents (rather than blank lines) to differentiate between citations. Present
369 citations within the manuscript in chronologic order and then alphabetic order. Spell out all
370 author names in sentence case lettering instead of using dashes. Present citations within the
371 Literature Cited section in alphabetic order and then chronologic order. At the end of the
372 Literature Cited section type “*Associate Editor:*” (the name of the Associate Editor will be filled
373 in later).

374 **Figure Legends and Tables**

375 On a new page following the Literature Cited, compile figure captions (not figures) and tables.
376 Submit figures as a separate file(s). Label and mount figure parts (e.g., Fig 3A, Fig 3B) together
377 into a single figure as they are meant to appear in print. Failing to do so may result in additional
378 charges during typesetting. Note that although AT provides spaces to enter figure and table
379 captions, these captions do not carry over to the merged file; they are for on-line reviewing only.

380 **Appendices**

381 Include appendices in the text file after all tables and figure captions. Use first-level headings for
382 Appendix titles.

383 **STYLE AND USAGE**

384 Manuscripts with publishable data may be rejected because of poor writing style (e.g., long and
385 complex sentences, superfluous words [Table 1], unnecessary information, and poor
386 organization). Most editors are patient with this problem and are willing to offer helpful
387 suggestions. However, reviewers may be less tolerant of poor writing, which may result in
388 negative reviews. We urge authors to review chapters 3 and 4 in the “CBE Style Manual” (CBE
389 Style Manual Committee 1994) and “Writing with Precision, Clarity, and Economy” (Mack
390 1986). Use a direct and concise writing style and minimize repetition among different sections
391 of your manuscript. Avoid using 1-sentence paragraphs. Many common problems may be

392 avoided by use of a carefully prepared outline to guide manuscript writing. Other helpful
393 suggestions are presented by Strunk and White (1979), Day (1983), and Batzli (1986). Many
394 problems can be corrected by having your manuscript critically reviewed by colleagues before
395 submission for publication.

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

400 Do not hyphenate words at the right margin, and do not right-justify text. Set margins at
401 2.5 cm (1 inch) on all sides. Do not violate margin boundaries to begin a new paragraph or to
402 place the Literature Cited at the top of a new page (i.e., do not leave >2.5 cm of space at the
403 bottom of a page except to prevent a widow heading). Do not underline, italicize, or boldface
404 words in the text to indicate emphasis. Type scientific names in italic font and type Latin
405 phrases in plain type (e.g., *post hoc*, *a priori*).

406 **Numbers and Unit Names**

407 Use digits for numbers (e.g., 7 and 45) unless the number is the first word of a sentence or is
408 used as a pronoun (e.g., at least one escaped), in which case the number is spelled out. Indicate
409 units after each item (e.g., elevations ranged 3,000 m to 5,000 m) and use symbols or
410 abbreviations (e.g., % and kg) for measurement units that follow a number unless the number is
411 indefinite (thousands of hectares), is a “0” (zero) or “1” (one) standing alone, or is the first word
412 in a sentence. In such cases spell out the number and unit name or recast the sentence. Avoid
413 using introductory phrases (e.g. a total of ...). Spell out ordinal numbers (e.g., first, second) in
414 text and Literature Cited, but use digits for cases such as 3-fold and 2-way. Convert fractions

415 (1/4, 1/3, etc.) to decimals except where they misrepresent precision.

416 Hyphenate number-unit phrases used as adjectives (e.g., 3-m² plots and 3-yr-old M) but
417 not those used as predicate adjectives (e.g., plots were 3 m², M were 3 yr old). Insert commas in
418 numbers $\geq 1,000$ (except for pages in books, clock time, or year dates). Do not insert a comma or
419 hyphen between consecutive, separate numbers in a phrase (28 3-m² plots). Do not use naked
420 decimals (i.e., use 0.05, not .05). When identifying items by number, use lowercase for names
421 (e.g., plot 1, site 5, day 3).

422 **Time and Dates**

423 Use the 24-hour system: 0001 hours through 2400 hours (midnight). Date sequence is day
424 month year, without punctuation (e.g., 4 March 2000). Do not use an apostrophe for plural dates
425 (e.g., 1970s). Spell out months except in parentheses, table bodies, and figures, in which 3-letter
426 abbreviations are used with no period (e.g., 31 Mar 1947).

427 **Mathematics and Statistics**

428 Use italic font for Roman letters used as symbols for quantities (e.g., *n*, *X*, *F*, *t*, *Z*, *P*, and \bar{x} ;
429 Appendix C). Do not underline or italicize numbers, Greek letters (e.g., chi-square, χ^2), names of
430 trigonometric and transcendental functions, or certain statistical terms (e.g., ln, E, exp, max, min,
431 lim, SD, SE, CV, and df). Report degrees of freedom used in a statistical test as subscripts to the
432 relevant test statistic. Use bold font for items that should be set in boldface type. Insert symbols
433 from your word processing program's symbol directory as opposed to creating the symbol with
434 keyboard functions (e.g., chi-square should appear as χ^2 [found in the symbol directory], as
435 opposed to X^2 [created with keyboard functions]). Use the minus sign from the symbols menu
436 (−) to indicate minus and negative values instead of using the keyboard hyphen. Use times (×) to
437 indicate multiplication or dimensions instead of using an asterisk (*) or a lowercase x.

438 Insert a space on both sides of symbols used as conjunctions (e.g., $P > 0.05$), but close the

439 space when symbols are used as adjectives (e.g., >20 observations). Where possible, report
440 exact probabilities ($P = 0.057$, not $P > 0.05$). A subscript precedes a superscript (X_i^3) unless the
441 subscript includes >3 characters. Break long equations for column-width printing (85 mm) if
442 they appear in the main body of the manuscript; long equations and matrices can be printed page-
443 width (180 mm) in appendices. Follow Swanson (1974) or the CBE Style Manual Committee
444 (1994:206–218) for general guidance, and follow MacInnes (1978) for advice on presentation of
445 statistics. Type the names of statistical programs or analytical methods (that are not acronyms)
446 in capital letters (e.g., PROC LIFEREG, POPGEN, Program MARK). See instructions on how
447 to cite statistical software packages (Appendix B). We urge authors to read Tacha et al. (1982)
448 and Wang (1986) for reviews of common statistical errors. Consider statistical power when
449 judging results (*JWM* 59:196–198).

450 Avoid redundant use of the word “significantly” (e.g., write “the means differed [$P =$
451 $0.016]$ ” instead of “the means differed significantly [$P = 0.016]$ ”). Report results of statistical
452 tests or central tendency as in the following examples: ($t_1 = 2.47, P = 0.013$), ($F_{3,12} = 33.10, P =$
453 0.01), ($\chi_{10}^2 = 22.1, P = 0.029$), or ($\bar{x} = 7.8, SE = 3.21, n = 46$). Note that the appropriate degrees
454 of freedom are subscripted with the test statistic. Present P -values less than 0.001 as $P \leq 0.001$.

455 **Equations**

456 Equations require precise internal spacing and formatting, and are most easily correctly
457 constructed with MathType software. Simple mathematical expressions, such as symbols with
458 simple subscripts or superscripts and Greek letters can be typed as text, using the symbol
459 directory. However, care must be taken to be sure that the font and font size are the same
460 wherever the symbol is used, and inconsistencies can arise when text symbols are mixed with
461 symbols generated with MathType. For example, the Greek letter phi can be represented by both
462 φ and ϕ , which leads to confusion when both appear in the manuscript but are to imply the same

463 symbol. Mathematical symbols for estimators are typically given “hats” (carets, e.g., $\hat{\mu}$) and
464 require the use of the software, as does proper construction of the symbol for an estimated mean
465 (\bar{x}). Submit complex equations as display equations in equation boxes: 1) characters that have
466 hats, tildes, or other expressions that would not translate well into straight text; 2) sums,
467 products, and similar statements; and 3) brackets around matrices and complex expressions. For
468 in-line equations using division, use “/” instead of stacking above and below a horizontal line,
469 and all symbols in text need to be pulled from the symbols function or Unicode. Statistical terms
470 that are not to be italics (e.g., ln, E, exp, max, min, lim, SD, SE, CV, and df) can appear in
471 equation boxes as text without italics by changing the style to “text” while editing the equation
472 box.

473 **Abbreviations and Acronyms**

474 The following abbreviations may be used in the text without definition: metric units, DNA,
475 USPS abbreviations, and certain measurement units (see Appendix C). Define all other
476 abbreviations or acronyms the first time you use them in the abstract and text (e.g., Geographic
477 Information System [GIS], Global Positioning System [GPS], Akaike’s Information Criterion
478 [AIC]). Reestablish acronyms in the text that were first established in the abstract. Do not start
479 sentences with acronyms, and do not use an apostrophe with plural acronyms (e.g., ANOVAs).

480 **Punctuation**

481 Use a comma after the next-to-last item in a series of >2 items (e.g., red, black, and blue). Do
482 not use a comma to separate a compound sentence before the conjunction unless the sentence
483 will be confusing otherwise (e.g., “Use an infrared scope at night and use a regular scope during
484 the day,” not “Use an infrared scope at night, and use a regular scope during the day.”). Write
485 clearly enough so that you do not need to put quotation marks around words or phrases unless
486 they are direct quotations. Do not hyphenate prefixes, suffixes, or combining forms unless

487 necessary to avoid confusion. Follow these 3 rules to avoid common hyphenation errors: 1) a
488 phrase containing a participle or an adjective is hyphenated as a compound when it precedes the
489 word modified, and it is written without a hyphen when it follows the word modified (e.g., “a
490 small-mammal study” and “a study of small mammals” are both correct but have a different
491 meaning than “a small mammal study”); 2) a modifier containing a number is usually
492 hyphenated (e.g., a 6-yr-old mammal); and 3) a 2-word modifier containing an adverb ending in -
493 -ly is not hyphenated (e.g., a carefully preserved specimen).

494 However, excessive use of compound modifiers before nouns makes for difficult reading
495 and tends to obscure the subject. Avoid ambiguous use of nouns as modifiers (e.g., wolf
496 researchers, woman hunters). Use prepositions to avoid using nouns as adverbs (e.g., nesting by
497 birds, not bird nesting; hunting with dogs, not dog hunting) and to avoid noun strings exceeding
498 3 words (e.g., radiotelemetry locations of dens in fall, not fall den radiotelemetry locations).

499 Closing quotation marks are always placed after periods and commas, but they may be
500 placed either before or after other punctuation (CBE Style Manual Committee 1994:177–181).
501 Brackets must appear in pairs, but the sequence varies. Use ([]) in ordinary sentences, use {{()}}
502 in mathematical sentences, and use () only in special cases such as chemical names. Brackets
503 are used to enclose something not in the original work being quoted (e.g., insertion into a
504 quotation or a translated title [CBE Style Manual Committee 1994:58–59]).

505 Do not use a slash (/) to indicate "and" or "or" or to express a range; use only to indicate
506 "divided by" or "per." Avoid using words in ways other than their standard meanings; use
507 quotation marks to imply a special meaning sparingly. Use trademarks (i.e.,™, ®) at the first
508 mention of a product name, where appropriate, and not thereafter (if introduced in the abstract,
509 re-establish the information in the text). Provide manufacturer information (manufacturer, city,
510 and state or country of manufacture) immediately following the first use of a product name. Do

511 not include manufacturer information or location for GIS and GPS.

512 **Enumerating Series of Items**

513 A colon must precede a series of numbered items unless the list is preceded by a verb or
514 preposition. For presentation of a simple series, place numbers followed by a closing parenthesis
515 only (see example in Key Words section) and separate phrases with commas or semicolons.

516 When enumerating lengthy or complexly punctuated series, place the numbers at the left margin,
517 with periods but no parentheses, and indent run-on lines (see Measurement Units section below).

518 **Common and Scientific Names**

519 Do not capitalize common names of species except words that are proper names (e.g., Canada
520 goose [*Branta canadensis*], Swainson's hawk [*Buteo swainsoni*], and white-tailed deer
521 [*Odocoileus virginianus*]). Scientific names follow the first mention of a common name, except
522 in the title. If a scientific name is established in the abstract, re-establish it in the text. Place
523 scientific names following common names in parentheses and italic font with the first letter of
524 the genus name capitalized and the species name in lower-case letters. Abbreviate genus names
525 with the first letter when they are repeated within a few paragraphs, provided the meaning is
526 clear and cannot be confused with another genus mentioned in the manuscript with the same first
527 letter; e.g., we studied snow geese (*Chen caerulescens*) and Ross' geese (*C. rossii*).

528 Do not use subspecies names unless essential, and omit taxonomic author names. Use
529 "sp." (singular; not italicized) or "spp." (plural) to indicate that the identity of species within a
530 genus was unknown. For example, "The field was bordered by willow (*Salix* sp.) and we trapped
531 several species of mice (*Peromyscus* spp.)." Use the most widely accepted nomenclature where
532 disagreement occurs. As general references for birds, use the most current edition of The
533 American Ornithologists' Union Check-list (e.g., 1997) and periodic supplements published in
534 *Auk*. For mammals, use Whitaker (1996). There is no single reference for plants in North
535 America; cite the most widely accepted regional flora reference (e.g., in northwestern states,

536 Hitchcock and Cronquist [1973]). Omit scientific names of domesticated animals or cultivated
537 plants unless a plant is endemic or widely escaped from cultivation or is a variety that is not
538 described adequately by its common name.

539 **Measurement Units**

540 Use Systeme Internationale d'Unites (SI) units and symbols (see Appendix C). Place a space
541 between numbers and units or symbols (e.g., 10 m, 80° C). Do not use hyphens between
542 numbers and units unless you are using a number-unit phrase to modify a noun (e.g., correct
543 usage: 12-mm mesh, 3-yr study, 12 mm in diam, and 2 mm wide; see section on Style and
544 Usage). Use English units (or, rarely, another type of scientific unit) in parentheses following a
545 converted metric unit only in cases that may misrepresent: 1) the statistical precision of the
546 original measurement or 2) the correct interpretation of the results. However, these non-SI units
547 are permitted:

- 548 1. Area: hectare (ha) in lieu of 10^4 m^2 ;
- 549 2. Energy: calorie (cal) in lieu of Joule (J);
- 550 3. Temperature: Celsius (C) in lieu of Kelvin (K);
- 551 4. Time: minute (min), hour (hr), day, etc. in lieu of seconds (sec);
- 552 5. Volume: liter (L) in lieu of dm^3 .

553 The CBE Style Manual Committee (1994:200–205) provides definitions of SI units and
554 prefixes. The American Society of Testing Materials (1979) includes many conversion factors.

555 **Securing Appropriate Approval(s)**

556 It is increasingly important that scientists ensure their research activities are conducted such that
557 the welfare of the animals they are studying (e.g., installing radiotransmitters) or the rights of
558 human subjects (e.g., sending them a survey) is considered. Consequently, it is important that all
559 peer-reviewed manuscripts submitted for publication demonstrate that these concerns have been

560 addressed. Include documentation in the Methods section.

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

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

571 **Citing Literature in Text**

572 In most cases reference citations parenthetically at the end of a sentence; e.g., “Mallard brood
573 survival was higher in the wettest years (Rotella 1992).” Cite published literature by author and
574 year; e.g., Jones (1980), Jones and White (1981). Use “et al.” for publications with ≥ 3 authors;
575 e.g., (Jones et al. 1982). Do not separate the author and date by a comma, but use a comma to
576 separate a series of citations. Use chronological order for citations in a series; e.g., (Jones 1980,
577 Hanson 1986). If citations in a series have >1 reference for the same author(s) in the same year,
578 designate the years alphabetically (in italics) and separate citations with semicolons; e.g., (Jones
579 1980*a, b*; Hanson 1981; White 1985, 1986). For citations in a series with the same year, use
580 alphabetical order within chronological order; e.g., (Brown 1991, Monda 1991, Rotella 1991,
581 Allen 1995). Do not give >5 citations in the text to reference a specific issue or scientific
582 finding. For a quotation or paraphrase, cite author, year, colon, and page number(s); e.g., “We
583 used Neyman allocation to minimize variance (Krebs 1989:216).” Use the same style for a book

584 or other lengthy publication unless the reference is to the entire publication; e.g., Odum
585 (1971:223).

586 Cite documents that are cataloged in major libraries, including theses and dissertations, as
587 published literature. This includes symposia proceedings and United States Government reports
588 that have been widely distributed. However, cite such references as unpublished if they are not
589 easily available. Cite all other documents as unpublished data in the text only.

590 **Citing Unpublished Sources in Text**

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

592 This includes reports that are not published or widely distributed, manuscripts that have not yet
593 been accepted for publication, and personal communications and observations. Avoid overusing
594 unpublished information. These citations are not as credible as published literature and will make
595 your text cumbersome. Cite unpublished references in the text as follows:

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

601 Abbreviate state names in parentheses except when they appear in the title of an academic
602 institution or agency. Always include the affiliation in the first citation, even if citing
603 unpublished data or personal observation of one of the authors, but do not repeat the affiliation in
604 subsequent references (e.g., J. G. Jones, personal communication).

605 A manuscript accepted for publication is cited as a published manuscript in the text using
606 the anticipated publication year. In the Literature Cited section, show the year after the name(s)

607 of the author(s) and “in press” after the volume number. Do not cite manuscripts that are in
608 review; use the unpublished style listed above. Refer to detailed instructions for Literature Cited
609 style (Appendix B).

610 **Citing Equipment and Statistical Software**

611 For field equipment, note the manufacturer name and location parenthetically the first time you
612 mention the equipment in the text (e.g., Interface, Missoula, MT). Do not include manufacturer
613 information or location for GIS and GPS. For statistical software, only include the software in
614 LITERATURE CITED if you are referencing the software manual. Otherwise simply include
615 manufacturer information (manufacturer, city, and state or country of manufacture) immediately
616 following the first use of the statistical product name. Include website access information in
617 citations if the program is only available online.

618 **TABLES AND FIGURES**

619 Submit only essential tables and figures. Do not submit tables if the information overlaps with
620 information presented in the text, can be easily printed in the text with less journal space, or
621 presents the same data in another table and a figure. Number tables and figures independently.
622 Do not combine multiple tables or figures on one page. In the text, limit reference of tabular data
623 to highlights of the most important information. Reference tables and figures parenthetically
624 (Table 1, Fig. 3) and avoid statements such as, “The results are shown in Tables 1–4.” Prepare
625 line drawings only for data that cannot be presented as clearly in a table. For general guidance
626 see CBE Style Manual Committee (1994:677–693).

627 Tables and figures should be able to stand alone (i.e., be self-explanatory) and avoid
628 reference to the text. Accordingly, define relevant abbreviations and acronyms in each table and
629 figure (except items that appear in Appendix C). Table and figure titles must include the species
630 or subject of the data studied and when and where (region/state and country) the data were
631 collected. Do not include statistics (e.g. *P*-values) or other statements of results in the titles. In

632 rare cases, titles or footnotes of tables and figures may be cross-referenced to avoid repeating
633 long footnotes or the same data; however, this violates the self-explanatory rule and should be
634 avoided. Combine figure legends on a separate page and include them with manuscript text
635 (following Literature Cited). Include tables at the end of the text (following the figure captions
636 or Literature Cited). Submit figures in AT separately from your text file. You may include all of
637 your figures in one file or submit each figure file separately.

638 **Tables**

639 Do not prepare tables for small data sets, those containing many blank spaces, zeros, repetitions
640 of the same number, or those with few or no significant data. Put such data or a summary of
641 them in the text. Day (1983) presents a practical discussion of tables.

642 For data that must be shown in a table, items that provide the most important comparisons
643 usually read vertically, not horizontally. Construct tables for column-width no wider than 85
644 mm (~3.5 inches) printing. If the table will not fit in one column width, construct it for page-
645 width printing not wider than 18 cm (~7.25 inches). Some extra-wide tables can be printed
646 vertically (e.g., *JWM* 50:192, 51:461), but such tables usually waste space. Extra-long and extra-
647 wide tables require persuasive justification.

648 Table titles may vary, but we recommend this sequence: 1) name of the characteristic that
649 was measured (e.g., mass, age, density), 2) measurement unit or units in parentheses (e.g., cm,
650 No./ha, M:100 F, or %), 3) name of organism or other entity measured (e.g., “of Canada geese”),
651 and 4) location(s) and date(s). Each part of the sequence can include >1 item (e.g., “Carcass and
652 liver fat [%] and adrenal and kidney weight [mg] of white-tailed deer in Ohio and Michigan,
653 USA, in 1975”). Do not include statistics or statements of results (e.g. *P*-values) in the title.
654 Please note that even though AT provides boxes to insert table captions and figure legends,
655 captions and legends must also be included at the end of the manuscript text file.

656 Avoid beginning the title with superfluous words (e.g., The..., Summary of..., and

657 Comparisons between...) and words that can be presented parenthetically as symbols or
658 abbreviations (e.g., %). Symbols such as n and % in the title seldom need repetition in table
659 headings. Do not use abbreviations in table title, except within parentheses. However, use
660 standard abbreviations and symbols (Appendix C) in the table body and in footnotes (Table 4).

661 The lines printed in tables are called rules, and they should be used according to the
662 following standards:

- 663 1. None drawn vertically within the table.
- 664 2. Each table contains at least 3 rules – below the title, below the column headings, and at the
665 bottom. Insert each as a single, continuous line. Do not use bold or extra-thick rules.
- 666 3. Use rules that straddle subheadings within the column heading (e.g., *JWM* 50:48).
- 667 4. None to show summation; use “Total” or equivalent in the row heading.
- 668 5. Do not use rules to join the means in multiple-range tests. Use Roman upper-case letters
669 instead of rules (e.g., 12.3A^a, 16.2A, and 19.5B) where the superscript “a” references a
670 footnote (e.g., “^aMeans with the same letters are not different ($P > 0.10$)”; *JWM* 50:22).
671 Upper-case letters may be used in a similar fashion to reference the relationship of data
672 among columns (e.g., *JWM* 50:371).
- 673 6. Use straddle rules in column headings to join related columns and reduce wordage (e.g.,
674 *JWM* 50:31). Label columns to avoid unnecessary print in the data field. For example,
675 instead of “ $\bar{x} \pm SE$,” label \bar{x} and SE separately so that \pm need not be printed. Similarly,
676 label sample size columns “ n ” instead of using numbers in parentheses in the data field.
677 Keep column- and row-heading words out of the data field. Type main headings flush
678 left, and indent their subheadings (e.g., *JWM* 50:86). For column- and row-headings, only
679 capitalize the first word and proper nouns (e.g., No. of times detected in NV), and do not use
680 bold font. In the data field, do not use dashes (often misused to mean no information) or zeros
681 unless the item was measured, and 0, 0.0, or 0.00 correctly reports the precision (measurement).

682 Similarly, respect digit significance in all numbers, particularly percentages. Do not use
683 percentages where n is <26 , except for 1 or 2 samples among several others where n is >25 .
684 Where the number of significant digits varies among data in a column, show each datum at its
685 precision level (i.e., do not exaggerate precision). For P values only use 3 digits past the
686 decimal, and do not list $P = 0.000$; the correct form is $P \leq 0.001$. Do not use naked decimal
687 points in the data field (e.g., use 0.057 instead of .057).

688 For footnote superscripts use asterisks for probability levels and lower-case Roman (not
689 italic) letters for other footnotes. Place letters alphabetically in the following sequence: in the
690 title, then left-to-right, and then down. Make certain that each footnote character in the title and
691 table matches an explanation in a footnote that is indented below the table. Left-justify run-on
692 lines of footnotes. Use footnotes to reduce cluttering the title and table with details. The most
693 common errors in tables are single spacing, incomplete titles, naked decimal points, and
694 ambiguous or unnecessary characters in the data field.

695 **Figures**

696 Most figures are either line (or computer) drawings or pictures (picture is used to distinguish
697 scene or object photographs from photos of drawings). If possible, photographic prints should
698 not exceed 20×25 cm. Do not submit color figures unless you are able to pay for printing
699 (\$650/color plate in Aug 2007). For additional guidance, consult Allen (1977), the CBE Style
700 Manual Committee (1994:693–699), and Day (1983).

701 Begin figure captions on a new page immediately following the Literature Cited. Figure
702 captions tend to be longer than table titles because figures are not footnoted. The caption may be
703 several sentences and include brief suggestions for interpreting the figure content. Like table
704 titles, figure captions should allow the figure to be self-explanatory, describing the variables
705 displayed and where and when data were collected. Do not include statistical results in the
706 caption. Type the label of each figure (e.g., Figure 1, Figure 2) on the page containing that

707 figure.

708 *Pictures.*—Pictures must have sharp focus in the most important parts of the image, have
709 high tonal contrast, and have a reference scale if size is important. Letters, scales, or pointers
710 can be drawn on the prints, but they must be of professional quality. Sets of 2–4 related pictures
711 can be handled as one figure if prints are the same width and will fit in a space $85 \times <180$ mm
712 when reduced for printing, but please mount them together prior to submitting the figure. All
713 image files must have a resolution of >200 dots per inch (dpi) at final printing size. Allen Press
714 does not retouch or resize photos, so submit only print-quality images.

715 *Line drawings.*—Consider whether a drawing can be printed column width (85 mm) or is
716 so detailed that it must be printed page width (180 mm). The difference depends mainly on size
717 of characters and lengths of legends drawn on the figure. If page width is necessary, consider
718 omitting some detail and look for ways to shorten legends. Column-width figures are preferred
719 (e.g., *JWM* 50:145).

720 Before revising the first sketch, determine the minimum height for letters, numbers, and
721 other characters, which must be ≥ 1.5 mm tall after reduction for printing. Determine width in
722 millimeters for the revised sketch. To determine the minimum height (mm) for characters,
723 multiply the width by 0.0224 for column-width printing or 0.0109 for page-width printing. If in
724 doubt as to printed width, use the column-width multiplier. The product is the minimum height
725 in millimeters. Use at least the next larger character height available. Hand-drawn lines and
726 lettering and typewriter characters are not acceptable. We recommend professionally prepared
727 line drawings.

728 Only capitalize the first word and proper nouns on axis labels and keys. Lettering within
729 figures follows the same guidelines as manuscript text. Use italic letters only where they are
730 essential to the meaning, as in mathematical terms and most metric units (see Mathematics and
731 Statistics section above and Appendix C). Identify arbitrary symbols by legend within the figure

732 (preferred) or, for those normally available to the printer (e.g., CBE Style Manual Committee
733 [1994:693–699]), in the figure title.

734 **FORMAT FOR COVER ART SUBMISSIONS**

735 Submit cover art only after your manuscript has been accepted for publication. If you have a
736 photo that you would like us to consider, please email your photo as an attachment to
737 jwm@wildlife.org. We prefer EPS or tif files, and jpg files must be the highest resolution
738 (minimum of 300 dpi). Submissions must be pre-sized to 8 1/2 × 8 1/2 or larger. If your photo is
739 selected for cover art, you will need to complete a signed release form.

740 **REVIEW PROCESS**

741 Upon receipt, the editorial staff examines a manuscript for proper style, format, and appropriate
742 subject matter. If style and format are seriously flawed, the paper likely will be returned for
743 revision before being sent to referees. If subject matter is obviously inappropriate, the EIC will
744 return the paper to the author with an explanatory letter.

745 The Editorial staff or EIC selects an AE who handles the initial review process. The
746 manuscript is assigned to ≥ 2 reviewers. All reviews are submitted electronically via AT.
747 Reviewers' comments are sent to the AE, who usually takes 1 of 3 actions after assessing the
748 manuscript and review comments: 1) the manuscript is forwarded to the EIC with a
749 recommendation to publish without revision (extremely rare), 2) the manuscript is returned to the
750 author with review comments and suggestions for revision (ranging from minor to major), or 3)
751 the manuscript is rejected.

752 Several revisions may be necessary before the AE recommends rejection or acceptance to
753 the EIC. Typically, manuscripts returned to authors for revision must be resubmitted as a
754 revision on AT within 6 months or the manuscript will be rejected, requiring resubmission as a
755 new paper. However, the EIC may require revisions in less time, depending on circumstances
756 surrounding the paper. Final acceptance or rejection of manuscripts is decided by the EIC.

757 Typically, the EIC follows the AE's recommendation but this is not guaranteed.

758 **Peer-Refereed Manuscripts**

759 The Editorial staff assigns peer-refereed manuscripts that have been approved for review to 2
760 qualified referees. The staff considers expertise, affiliation, geographic location, date of last
761 review, and performance on previous reviews when selecting referees.

762 Referees are emailed and asked to complete their review within 3 weeks. Referees have
763 immediate access to the manuscript once they accept the assignment. Reminder notices are sent
764 on a regular basis until the review has been received. Despite these measures, it is sometimes
765 necessary to replace delinquent referees. It may take >2 months before the AE receives a
766 complete set of reviews.

767 Occasionally, the EIC or AE judges that a referee's comments reveal biases, lack
768 objectivity or detail, are illogical, or otherwise lack merit. In such cases the EIC or AE may
769 request an additional review from an additional referee, or ask for a manuscript revision despite
770 negative comments from 1 or 2 referees. A second opinion from referees who recommended
771 rejection also may be requested, particularly on manuscripts that are considered further following
772 major revisions.

773 Manuscripts returned to authors for revision must be revised and returned to the AE
774 within a reasonable deadline set by the AE or the manuscript will be withdrawn from the review
775 process, requiring resubmission of the manuscript for further consideration. Once a completed
776 revision is returned, the revised manuscript is reviewed again by the AE (and sometimes sent out
777 for additional peer review) and either rejected or forwarded to the EIC with a recommendation to
778 accept the manuscript for publication. The revision process often requires several iterations

779 before the AE makes a final decision.

780 **Acceptance and Rejection Policies**

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

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

792 The author of a rejected manuscript may feel that referees' comments support publication
793 and that the editorial decision was wrong. The author should realize that the AE receives 2 sets
794 of comments from each referee, one open and one confidential. The confidential evaluation may
795 reveal weaknesses not mentioned in comments seen by the author. One referee may have
796 discovered weaknesses missed by the other referees. Both confidential and open comments
797 factor into the recommendation made to the EIC by the AE. Further, the EIC may identify
798 problems missed by both referees and the AE.

799 *Appeal and resubmission.*—The author may question the reasons for rejection by writing
800 the EIC, stating his or her case, and asking for reconsideration. Reconsideration of a rejected

801 manuscript requires a convincing rebuttal letter from the author(s). Authors should not revise
802 and resubmit the manuscript without first writing a letter requesting reconsideration, which saves
803 time for the EIC and the author.

804 *Accepted manuscripts.*—Once a manuscript is accepted, it enters the queue for
805 publication and usually is printed in the next available issue. Accepted manuscripts go through 2
806 stages before publication: 1) final edit by *JWM* staff for content-related issues and general
807 formatting and 2) copyediting and typesetting by the production staff. Authors are contacted
808 during both stages. All correspondence is conducted via email, so authors should make sure the
809 email address on their homepage is current at all times. Authors will be given a reasonable
810 amount of time to respond. Delays in submitting revisions may result in the manuscript being
811 carried over to a future issue or even rejected.

812 *Page proofs.*—The final production stages of the TWS publications are handled by Allen
813 Press (Lawrence, KS). Page proofs of each paper are created by Allen Press and sent to each
814 corresponding author. During the page proof stage, press deadlines are fast approaching and
815 author corrections to page proofs are urgently needed, preferably within 48 hours of their receipt.
816 Corrections should be e-mailed, faxed, phoned in, or sent by overnight or 2-day delivery,
817 depending on how complicated they are. It is important that authors clearly communicate their
818 recommended changes, mark proofs clearly, or describe changes in detail. Make only essential
819 changes to page proofs. Authors are allowed 5 minor changes to page proofs free of charge, and
820 authors will be charged \$5 per additional change. After the issue goes to print, authors will
821 receive a bill for changes made to page proofs.

822 **ACKNOWLEDGMENTS**

823 These guidelines have been compiled from previous versions of *Journal of Wildlife Management*

824 and *Wildlife Society Bulletin* guidelines and were compiled by the cooperative efforts of J.
825 Wallace, R. Britton, T. Estabrook, and C. Johnson. We gratefully acknowledge the work of
826 those previous authors that made this effort easier. We also thank our authors, reviewers, AEs,
827 and EICs, past, present, and future.

828 **LITERATURE CITED**

829 Allen, A. 1977. Steps toward better illustrations. Allen Press, Lawrence, Kansas, USA.

830 American Ornithologists' Union. 1997. Check-list of North American birds. Seventh edition.

831 Allen Press, Lawrence, Kansas, USA.

832 American Society of Testing Materials. 1979. Standard for metric practice, ASTM E 380-379.

833 American Society of Testing and Materials, Philadelphia, Pennsylvania, USA.

834 Batzli, G. O. 1986. Thoughts while cleaning out old editorial files. *Bulletin of the Ecological*

835 *Society of America* 67:167–168.

836 CBE Style Manual Committee. 1994. Scientific style and format: the CBE manual for authors,

837 editors, and publishers. Sixth edition. Council of Biological Editors, Cambridge

838 University, New York, New York, USA.

839 Day, R. A. 1983. How to write and publish a scientific paper. Second edition. ISI Press,

840 Philadelphia, Pennsylvania, USA.

841 Gill, J. D., and G. B. Healy. 1980. Guidelines for *Journal of Wildlife Management* manuscripts,

842 1980. The Wildlife Society, Washington, D.C., USA.

843 Guthery, F. S. 1987. Guidelines for preparing and reviewing manuscripts based on field

844 experiments with unreplicated treatments. *Wildlife Society Bulletin* 15:306.

845 Hitchcock, C. L., and A. Cronquist. 1973. Flora of the Pacific Northwest. University of

846 Washington Press, Seattle, USA.

- 847 Hurlbert, S. H. 1984. Pseudoreplication and the design of ecological field experiments.
848 Ecological Monographs 54:187–208.
- 849 Kendall, R. L. 1981. Dual publication of scientific information. Transactions of the American
850 Fisheries Society 110:573–574.
- 851 MacInnes, C. D. 1978. Editorial--expression of statistical results. Journal of Wildlife
852 Management 42:700–701.
- 853 Mack, R. N. 1986. Writing with precision, clarity, and economy. Bulletin of the Ecological
854 Society of America 67:31–35.
- 855 Ratti, J. T., and L. W. Ratti. 1988. Manuscript guidelines for the Journal of Wildlife
856 Management. Journal of Wildlife Management 52(1, Supplement).
- 857 Ratti, J. T., and L. A. Smith. 1998. Manuscript guidelines for the Journal of Wildlife
858 Management. Journal of Wildlife Management 62(1, Supplement).
- 859 Reidel, S., and Crowder, H. 1999. Wildlife Society Bulletin guidelines for manuscripts: 1998
860 revision of Guidelines for authors and reviewers of Wildlife Society Bulletin
861 manuscripts. Wildlife Society Bulletin 26:657–690.
- 862 Strunk, W., Jr., and E. B. White. 1979. The elements of style. Third edition. Macmillan, New
863 York, New York, USA.
- 864 Swanson, E. 1974. Mathematics into type: copy editing and proofreading mathematics for
865 editorial assistants and authors. American Mathematics Society, Providence, Rhode
866 Island, USA.
- 867 Tacha, T. C., W. D. Warde, and K. P. Burnham. 1982. Use and interpretation of statistics in
868 wildlife journals. Wildlife Society Bulletin 10:355–362.
- 869 Wang, D. 1986. Use of statistics in ecology. Bulletin of the Ecological Society of America
870 67:10–12.

871 Whitaker, J. O., Jr. 1996. National Audubon Society field guide to North American mammals.
872 Alfred A. Knopf, New York, New York, and Chanticleer Press, New York, New York,
873 USA.

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

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

878 Immediately below the Literature Cited section type the following in italics:

879 *Associate Editor:*

880

881

882

883

884

885

886

887

888

889

890

891

892

893

894

895

896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924

Table 1. Common expressions with superfluous words

Superfluous wording ^a	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

925 a single one
 926 an individual taxon a taxon

927
 928

929

930 Table 1. Continued.

931
 932

Superfluous wording	Suggested substitute
---------------------	----------------------

933
 934

935

936 seedlings, irrespective of species	all seedlings
937 all of the species	all species
938 various lines of evidence	evidence
939 they do not themselves possess	they lack
940 were still present	persisted, survived
941 the analysis presented in this paper	our analysis
942 indicating the presence of	indicating
943 despite the presence of	despite
944 checked for the presence of	checked for
945 in the absence of	without
946 a series of observations	observations
947 may be the mechanism responsible for	may have caused
948 it is reasonable to assume that where light	
949 is not limiting	with light not limiting
950 in a single period of a few hours	in a few hours
951 occur in areas of North America	are in North America
952 adjacent transects were separated by at least 20 m	≥20 m apart
953 in the vicinity	nearby

955 separated by a maximum distance of 10 m and
 956 a minimum distance of 3 m 3–10 m apart
 957
 958

Table 1. Continued.

Superfluous wording	Suggested substitute
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. Commonly misused words.

Word and proper usage^a

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: approx 24 hr.

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

continuous: going on in time or space without interruption.

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

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): no. of cases developing per unit of population per unit of time.

insure (see ensure): to assure against loss.

livetrapping: verb.

live trap: noun.

Table 2 continued.

Word and proper usage

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 no. 3.43 shows more precision than 3.4, but is not necessarily more accurate.

prevalence (see incidence): no. 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.

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

various: of different kinds.

Table 2 continued.

Word and proper usage

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]); the word most often misused in *JWM* manuscripts.

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).

Table 3. Format and style guidelines for tables accompanying manuscripts submitted to *Journal of Wildlife Management*.

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 ^a	Use alphabetical superscripts, except for footnotes specifying probability levels.
Spacing	Double-space throughout, including title and footnotes.

^a Indent the first line of a footnote 2 spaces. The remaining lines are flush with the left margin and double spaced. See **Tables** section above for sequence of footnotes.

Table 4. Example of correct format of tables accompanying manuscripts submitted to *Journal of Wildlife Management*.

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

^aFor footnotes, use lower-case, Roman letters. Indent the first line of the footnotes 2 spaces, and left-justify all run-on lines. Use asterisks for probability levels.

APPENDIX A. ON-LINE MANUSCRIPT SUBMITTAL

We outline the basic steps of the online submission process in this Appendix. Before submitting manuscripts, please review the *Journal of Wildlife Management Manuscript Guidelines* and ensure that your manuscript is formatted accordingly. Manuscripts that seriously deviate from the requested format will be returned to authors, which could result in unnecessary delays.

Submit manuscripts on the *Journal of Wildlife Management* AllenTrack (AT) website:

<http://jwm.allentrack.net/>.

Logging in to Your AllenTrack Account

To create a new AT account or find out if you already have an account, go to the above-noted website, click “new authors should register for an account,” and provide the requested information. Please note that you do not have to be an author to have an account. If you forget your login name or password, click the “forgot my password” link on the AT mainpage, enter the requested information, and AT will email you your login name and a temporary password. If you do not receive the email from AT within a few hours, please contact the editorial office at jwm@wildlife.org.

Your AllenTrack Homepage

Having successfully logged in to AT, you will be taken to your *JWM* homepage. There, under “Author Tasks,” you will see the following options: “Author instructions,” “Submit presubmission inquiry,” and “Submit manuscript.” There also is a “General Tasks” heading with the options “Modify profile/password” and “logout.” You can use this “General Tasks” link to update your profile (e.g., change your contact information, add or delete key words) and to modify your password. We encourage you to log in to your homepage to access all AT tasks (e.g., submitting a manuscript or review, checking the status of your manuscript). The links embedded in emails you receive from *JWM* are task-specific and, once that task has been completed, the links will no longer work. If you are reviewing a manuscript for the publication, there will also be links on your homepage for that task.

Submitting your Manuscript

You will be taken through a series of 4 screens as you submit your manuscript:

1. The first screen is a form asking for author, title, abstract, and file quantities. You will be asked to enter corresponding author information first and contributing author information later. Do not enter the corresponding author information again as a contributing author.

Recognizing that the corresponding author is not always the first author, you will be asked to select an order for each author entered. You will also be asked to provide email addresses for your co-authors. You will not be able to proceed without this information, so if a co-author does not have an email address, or if it is unavailable, make one up (e.g., unknown@unknown.com). On the first screen, you will be asked to enter the title, running head, and abstract. Reviewers do not see the submittal form, so you must include title, running head, and abstract in the manuscript as well. At the end of the first screen you will be asked to identify how many files will be uploaded (cover letter, article file, color figure[s], black and white figure[s], tables, data sets, supplemental material, author pictures or supplemental pictures). You may “save and continue,” “save and exit,” or “cancel” at any time.

2. The second screen provides you with browser buttons to upload your file(s). The *JWM* accepts manuscripts in Word (.doc) only. We cannot accept .docx files. We recommend creating equations using older versions of Word. Equations formatted in .docx cannot be automatically converted to .doc equations. Tables must be submitted as part of the manuscript text file. Keep table headings with the table. Include tables immediately after Literature Cited. Figures must be uploaded as separate files. Include figure titles at the end of the manuscript text file following Literature Cited and tables. Multiple figures may be uploaded as individual files, but keep each figure on its own page. Label and mount figure parts (e.g., Fig 3A, Fig 3B) together into a single figure as they are meant to appear in print. Failing to do so may result in additional charges during typesetting. The boxes that are provided in AT for table headings and figure captions are not transferred to the reviewer PDF files, so you must keep this information in the manuscript. Once you have uploaded all files, click “submit” to submit the manuscript files. If you have

multiple article files, you will be asked to order them so that a merged PDF file can be created for the reviewers.

3. The third screen is a completion screen that will provide you with a manuscript number for your submission (e.g., 2005-821). Please use this manuscript number in all correspondence. During this stage, all files will be converted to PDF format, which takes up to 30 minutes. If the conversion takes >30 minutes, please contact the editorial office. Some common reasons that files do not convert properly include large files (i.e., Geographic Information System [GIS]-related images), incompatible file formats (we only accept .doc, .tif, .jpg, .pdf, .eps, .xls, and .ppt.), and embedded links. You can leave AT while the files convert and return to your manuscript at a later time. However, you do need to review and approve the converted PDF files before they are forwarded to the editorial office.
4. The final screen allows you to verify that your manuscript was uploaded and converted correctly. You can make corrections at this stage (e.g., replace, delete, or rename a file). Once you approve the converted files, your manuscript is sent to the editorial office. The *JWM* editorial office will send you an email confirming that your submission has been received. If you do not receive an email within 2 days of submission, please contact the editorial office.

If you are asked to revise your manuscript, the corresponding email will contain a link to your manuscript in AT. Again, you can reach the manuscript by logging on as described above. You will not be required to re-enter the manuscript metadata. Instead, when ready, REPLACE and ADD files as necessary. Files that have not been edited and are to remain with the current manuscript version may be left as is (e.g., figure files). DELETE any files that are no longer part of the current version. Allen Track saves a copy of the original submittal, and carrying old files

forward may create confusion. Upload a cover letter with your revision that details how you responded to Associate Editor, EIC, and reviewer comments.

APPENDIX B. LITERATURE CITED

Type the Literature Cited immediately following the text, not necessarily on a new page.

Double-space Literature Cited and use hanging indents for second and subsequent lines of a citation. 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 locations: 1) Washington, D.C., 2) U.S. (e.g., U.S. Forest Service), and 3) USA. Alphabetize by authors' surname(s), regardless of the number of multiple authors for the same publication. Within alphabetical order the sequence is chronological (e.g., Benton 1980, Benton 1991, Benton and Madison 1979). Spell out all author names instead of using dashes.

Use sentence-case letters 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 one space between each initial. Only reverse the name order of the first author (e.g., Thogmartin, W. E., J. R. Sauer, and M. G. Knutson). For serial publications, show the issue number only if the pages of each issue are numbered separately. As in the text, spell out ordinal numbers (e.g., Third edition). Do not include words such as Publishing, Inc., or Company. Use the word Thesis to denote Master of Science (M.S.) or Master of Arts (M.A.), and use the word Dissertation for Doctor of Philosophy (Ph.D.). Do not write the total page number of books at the end of the citation. 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 or organization's name (if known), date of

publication or last revision, title of document, title of complete work (if relevant), URL, and date of access. Please review the following examples.

Book: General Format

McCullough, D. R. 1979. The George Reserve deer herd: population ecology of a K-selected species. University of Michigan, Ann Arbor, 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: More Than 1 Edition

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

Book: More Than 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.

Gutiérrez, R. J., A. B. Franklin, and W. S. LaHaye. 1995. Spotted owl (*Strix occidentalis*). Account 179 in A. Poole and F. Gill, editors. The birds of North America, The Academy of Natural Sciences, Philadelphia, Pennsylvania, and The American Ornithologists' Union, Washington, D.C., 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.

Note: If the state (or province) appears in the publisher or agency name, it need not be repeated after the city.

Book: Reprint

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

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, 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 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.

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.

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.

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

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

Peek, J. M., A. L. Lovaas, and R. A. Rouse. 1967. Population changes within the Gallatin elk herd, 1932–1965. *Journal of Wildlife Management* 31:304–316.

Peek, J. M., 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.

Software Package

SAS Institute. 2001. Version 8.02 user manual. SAS Institute, Cary, North Carolina, USA.

Note: For statistical software, only include the software in **Literature Cited** if you are referencing the software manual.

Symposia and Proceedings: Complete Volume

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

Symposia and Proceedings: Individual Article

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

Symposia and Proceedings: Part of a Numbered Series

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

Symposia and Proceedings: Complete Volume (not part of a numbered series)

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

Note: Include dates and location with these citations.

Symposia and Proceedings: Individual Article (not part of a numbered series)

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

Note: Include dates and location with these citations.

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, 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

Council of Biology Editors [CBE]. 1999. CBE homepage. <<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

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

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.

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

Abbreviate the following terms in parentheses, tables, and figures, but do not abbreviate these terms in regular text. Do not define terms listed in this table; however, all additional abbreviations must be defined the first time they appear in the text. No additional metric abbreviations (identified with an asterisk) are allowed.

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
Calorie	cal*	Maximum	max.
Celsius	C*	Meter ^a	m*
Chi-square	χ^2	Metric Ton	t
Coefficient	coeff.	Minimum	min.
Confidence interval	CI, $a \leq \bar{x} \leq a$	Minute	min
Confidence limits	CL, $x \pm a$	Month names	Jan, Feb, etc.
correlation, simple	R	More than/Greater than	>*
Determination, multiple	R^2	Multiple correlation	R^2
Determination, simple	r^2	Number (of items)	no.
Degrees of freedom	Df	Observed	obs
Diameter	diam	Parts per billion	ppb*

Diameter, breast height	dbh	Parts per million	ppm*
Directions	N, S, E, W, NE, NW, etc.	Percent	%*
Equation(s)	eq(s)	Population size	N
Expected	E	Probability ^b	P
Female	F	Sample size	n
F ratio	F	Sample mean (of x)	\bar{x}
Gram	g*	Spearman rank correlation	r_s
Gravity	G	Standard deviation (s)	SD
Hectare	ha*	Standard error ($s_{\bar{y}}$)	SE
Height	ht	Student's t	t
Hotelling's T^2	T^2	Temperature	temp
Hour(s)	hr	Trace ^c	tr
Joule	J*	Variation	CV
Juvenile	juv	Versus	vs.
Kilocalorie	kcal*	Volt	V*
Lethal concentration, 50%	LC ₅₀	Volume: liquid, book	vol, Vol.
Lethal dose, median	LD ₅₀	Weight	wt
Less than	<*	Wilcoxon test	T
Limit	lim	Year(s)	yr
Liter	L*	Z-statistic	Z^*

^aAll standard meter-based measurement units must be abbreviated in text when they appear

after a number (e.g., mm, cm, km, etc.)

^b Use *P* to indicate a specific probability value (e.g., $P < 0.001$), but not in more broad definitions in column-headings or axis labels [e.g., Probability that a juv survives first yr].

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