Journal of Fish and Wildlife Management Guide for Authors

The *Journal of Fish and Wildlife Management* encourages submission of original, high quality, English-language scientific works on all aspects of fish, wildlife, plants, ecology, and land management. For additional information on manuscript acceptance criteria, see the U.S. Fish and Wildlife Scientific Journals Home Page.

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Manuscript Categories

Manuscripts may be submitted in any of the following categories (numbers of pages noted below include text, references, tables, and figures formatted in accordance with the journal's Format Conventions) and are general guidelines only, not strict limits:

(1) *Articles* are full research reports and comprehensive reviews of particular topics that contain critical assessments and often innovative interpretations, and distillation of principles and generalities. Articles typically do not exceed 75 pages; additional materials and large data sets may be submitted as Supplemental Material. Longer manuscripts may be more appropriately submitted to *North American Fauna*. Examples of previous Service publications that may be suitable as Articles include, but are not limited to: Alaska Fisheries Technical Reports, Alaska Refuge Reports, Biological Technical Publications, Fish Technology Center and Fish Health Center publications, Species Accounts, and Focal Species Plans.

(2) *Notes* are shorter papers of more limited scope – they typically contain more limited analyses, often with less spatial or temporal replication, and may be more descriptive than *Articles*. *Notes* may report results from a variety of field surveys (e.g., fish weirs, National Wildlife Refuge and migratory bird surveys), as well as observations on methodology and protocol. *Notes* typically do not exceed 20 pages; additional materials and large data sets may be submitted as Supplemental Material. Examples of previous Service publications that may be suitable as Notes include, but are not limited to: Alaska Fisheries Data Series, migratory bird surveys, contaminants reports, and AADAP Research Information Bulletins.

(3) *Issues and Perspectives* contain essays examining questions of concern on matters of scientific interest to conservation professionals, as well as critiques and comments on papers published in this journal, along with invited responses from the original authors that rebut them.

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Supplemental Material

Supplemental material is submitted along with the primary manuscript files and is peer reviewed. However, it is not copyedited or typeset and does not appear directly in the final published article. Instead, web links to the electronic files are given in the published paper, allowing the reader immediate online access to the material. The files will be available in exactly the same form as provided by the authors, so they should be publication-ready upon submission.

The use of supplemental material has two primary benefits. First, it enables authors to incorporate multimedia files, such as audio and video files. Second, it allows authors to disseminate comprehensive data sets, while still allowing for judicious use of journal space and, therefore, significant savings on publication costs.

Authors are encouraged to submit essential supporting data, tables, figures and multimedia files along with their manuscripts. During the online submission process, authors upload supplemental files along with the primary manuscript files and simply designate them as "supplemental material" using the dropdown option list provided. Authors should take special care to critically evaluate large data sets and appendices to determine which can be submitted as supplemental material.

Supplemental materials should fall into one of the following categories: Figures, Tables, Text, Audio, or Video. All supplemental material should be referred to in the manuscript with a leading capital S (e.g., Figure S4 for the fourth supplemental figure). During the online submission process, authors will provide titles (required) and captions (optional) for each file. Except in rare cases, files should be smaller than 10 MB in size because of the difficulties that some users will experience in loading or downloading larger files.

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Style Guides and Reference Literature

Our standard for word definition and spelling is *Webster's Third New International Dictionary*, as updated by the latest edition (currently 11th) of *Merriam Webster's Collegiate Dictionary*.

For taxonomic and vernacular names of North American fish species, we follow the American Fisheries Society's most recent edition of *Common and Scientific Names of Fishes from the United States, Canada, and Mexico* (Special Publication 29). The American Fisheries Society Fish Name Spellchecker is a useful tool for providing current common and scientific names. For other fish and invertebrate species, we encourage readers to follow the Society's companion publications: *World Fishes Important to North Americans* (Special Publication 21), and *Common and Scientific Names of Aquatic Invertebrates from the United States and Canada* (*Mollusks*, 2nd edition; *Crustaceans*, and *Cnidaria* and *Ctenophora* are currently available in the latter series).

For analyses of fish population dynamics, we prefer the notation as used by W. E. Ricker in his *Computation and Interpretation of Biological Statistics of Fish Populations* (Fisheries Research Board of Canada Bulletin 191, 1975). However, all such symbolism should be defined anew in each manuscript.

Our standards for chemical names are the current editions of the *Merck Index* (Merck & Co., Rahway, New Jersey) and *Enzyme Nomenclature* (Academic Press, San Diego, California). Geneticists should use the "Gene Nomenclature for Protein-Coding Loci in Fish" by J. B. Shaklee et al. (*Transactions of the American Fisheries Society* 119:2–15, 1990).

As general references for birds, use the most current edition of The American Ornithologists' Union Check-list (i.e., 1998) and periodic supplements published in Auk. For mammals, use either Whitaker (1996) *National Audubon Society Field Guide to North American Mammals* or Wilson and Reeder (2005) *Mammal Species of the World*, 3rd edition. There is no single reference for plants in North America; cite the most widely accepted regional flora reference (e.g., in northwestern states, Hitchcock and Cronquist [1973]).

As a general reference for amphibians and reptiles, follow Crother (2008; Herpetological Circular 37, Society for the Study of Amphibians and Reptiles) for species from North America.

As a general reference for insects, use the current Entomological Society of America (ESA) Common Names of Insects and Related Organisms online database (http://www.entsoc.org/Pubs/Common_Names/search.asp) or names approved by the ESA Common Names Committee.

As a general reference for bacteria, follow the International Committee on Systematics of Prokaryotes (formerly the International Committee on Systematic Bacteriology [ICSB]) (http://ijs.sgmjournals.org/cgi/reprint/30/1/225).

For categories not specifically addressed, follow the International Code of Zoological Nomenclature (ICZN) (http://www.iczn.org/) or International Code of Botanical Nomenclature (http://www.bgbm.org/iapt/nomenclature/code/SaintLouis/0000St.Luistitle.htm).

In addition, several other style manuals provide useful guidance for the preparation of manuscripts, especially the latest edition of *Scientific Style and Format, 7th edition* (Council of Science Editors, Chicago). The *Elements of Style* by Strunk and White (Macmillan, New York) continues to be an excellent guide to English usage. Accuracy and precision in scientific writing are just as important as accuracy and precision in scientific measurement. Lapses in either context invite criticism.

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Format Conventions

Whenever authors follow the style and format of the journal for which they write, they earn the appreciation of reviewers, editors, and typesetters and save themselves extra revisionary work. The following conventions apply to this journal:

Document and Multimedia Files

The following formats are acceptable:

1. Manuscript files in Word (doc), ASCII text (txt), or Rich text (rtf).
2. Figure and image files in JPEG (jpg), TIFF (tif), Adobe PDF (pdf), Excel (xls, one sheet only), or PowerPoint (ppt).
3. Table files in Excel (xls, one sheet only) or Word (doc).
4. Supplemental files in any of the preceding formats as well as video and audio files in MPEG (mpg), AVI (avi), QuickTime (mov), RealVideo (rv), AU (au), MP3 (mp3), WAV (wav), or RealAudio (ram).

See Manuscript Components section for additional details.

Word Processing

1. Use line spacing of at least 1.5 for all material, including title, abstract, footnotes, references, tables, and table and figure legends.
2. Number all pages sequentially, including title page, abstract, tables, and figure legends. Make sure that headers or footers will not be confused with the text.
3. Turn off all hyphenation and justification routines.
4. Use a standard 12-point font throughout (Times/Times New Roman; Courier/Courier New; Helvetica/Arial). Use boldface type only to indicate first- and third-level heads and vectors. Use an italic font and not underlining to indicate italics. Use an italic font only for scientific binomials (other Latin words and phrases are *not* italic), single-letter variables and constants in mathematics and statistics, and for *occasional* emphasis.
5. Avoid solid capital letters except for acronyms. Acronyms, abbreviations, numerals, and symbols should never begin a sentence.
6. Do not use footnotes in text. Items to appear as footnotes on the first page (e.g., corresponding author information) should appear as plain text following the address section.
7. Delete all horizontal and vertical lines from tables except the horizontal lines above and below the column heads and across the bottom of the table. Table footnotes take lowercase, superscript letters in alphabetical order, and the sequence starts anew with each table. For more information regarding table footnotes, see the *Tables* section under Manuscript Components

Numbers and Symbols

1. Spell out one-digit numbers unless they are used with units of measure or are directly compared with a larger number: four anglers; 5 cm; 8 bluefish and 16 striped bass. Use numerals for decimal fractions and

numbers of two or more digits: 0.4 times; 17 tanks; 326 fish, but spell out any number that begins a sentence. Use commas in numbers of 1,000 and greater; use 0 before decimal fractions (0.05).

2. Use the 24-hour clock for diel time and spell out "hours": 1435 hours, not 2:35 p.m. Calendar dates can follow either of two formats: day month year (17 July 1990) or month day, year (July 17, 1990); select one style and use it consistently throughout the paper, including tables and figures.
3. Use metric units of measure without exception. Report physical measurements in accordance with the Système International d'Unités (SI). When one unit appears in a denominator, use a solidus (6 mg/L); use negative exponents and product dots (26.4 g·m3·h1) for compound denominators.
4. Indicate the national currency involved the first time a monetary value is given (e.g., Can $6, US $153).
5. Give fish ages in arabic, not roman, numerals (age 3, not age III) and avoid plus (+) signs in the age notation. A fish is age 0 during its first year of life, which is assumed to end December 31 unless otherwise indicated. Define specialized age notations such as those used for anadromous species.
6. Some symbols are not unique (for example, *N* can mean newton, nitrogen, normal, or north), so terms should be spelled out if there is any chance of ambiguity. All other symbols must be defined when they are introduced in each paper; for example, "1,000 × gravity (g)" at first use, and "1,000 g" thereafter. To facilitate communication with readers, avoid excessive use of abbreviations and acronyms, and avoid abbreviations in the abstract.

Nomenclature

1. Scientific names follow the first mention of a common name in the abstract and text, but not in the title. Omit taxonomic author names. Place scientific names following common names in italic font with the first letter of the genus name capitalized and the species name in lowercase letters. Abbreviate genus names with the first letter on subsequent uses, provided the meaning is clear and cannot be confused with another genus mentioned in the manuscript with the same first letter; e.g., we studied snow geese *Chen caerulescens* and Ross' geese C. *rossii*.
2. General references to organisms do not require scientific names: coldwater fishes.
3. After indicating scientific names, use the common names in the article per the references in Useful Literature. Always use full common names: "largemouth bass," not "bass," "Colorado potato beetle," not "CPB." However, if the name is long or frequently used, then use the full name only at first occurrence in each paragraph; e.g., "westslope cutthroat trout," then "trout." Do not capitalize common names of species except words that are proper names; e.g., Cooper's hawk *Accipiter cooperii*.
4. If there is no common name (e.g., with some parasites), use the scientific name throughout: *Myxobolus cerebralis*. Likewise, if there is no scientific name (e.g., with some viruses or cell lines), then use the common name or abbreviation throughout: infectious hematopoietic necrosis virus (IHNV), Chinook salmon embryo (CHSE-214) cells.
5. Omit scientific names of domesticated animals or cultivated plants unless a plant is endemic or widely escaped from cultivation or is a variety that is not described adequately by its common name.
6. For taxonomic and systematics papers, you may use the scientific names in the titles and throughout.
7. Avoid using subspecies names unless essential. Use "sp." (singular; not italicized) or "spp." (plural) to indicate that the identity of species within a genus was unknown. For example, "The field was bordered by willow (Salix sp.) and we trapped several species of mice (*Peromyscus* spp.)." Use the most widely accepted nomenclature where disagreement occurs.
8. For two common food items for fish, do not identify beyond the genus level: daphnia *Daphnia* spp., brine shrimp *Artemia* spp. Use either the common or scientific name, but be consistent within the paper.
9. For new species, include the scientific name in the title and use throughout. For new fish species, also provide documentation of the name for the chair of the Committee on Names of Fishes.
10. For fish species covered by *World Fishes Important to North Americans* you may indicate alternate common and scientific names: whitefish *Coregonus lavaretus* (known as powan in North America).
11. For tilapia species use either the Thys or Trewavas system, but be consistent within the paper.
12. Some fish species have more than one common name because of differences in life history. If you discuss only one form in the paper, present it in the usual way: steelhead *Oncorhynchus mykiss*. If you discuss both forms, presentation depends on which is mentioned first: "rainbow trout *Oncorhynchus mykiss*" then "steelhead (anadromous rainbow trout)"; "steelhead *Oncorhynchus mykiss* (anadromous rainbow trout)" then "rainbow trout."
13. Strains are variants maintained by culture: Seneca lake trout *Salvelinus namaycush*. If the strain name does not indicate the species in question, clarify the information in the title, abstract, and text; e.g., a title would

refer to “koi carp” and the abstract and text would indicate the species with a phrase such as “koi, a variant of common carp *Cyprinus carpio*.” Afterward just “koi” may be used.

14. Stocks are populations managed as a unit and usually have geographic names: Chesapeake striped bass *Morone saxatilis*.
15. Runs consist of members of a species that are migrating to spawn in a particular season: fall (or fall-run) cum salmon *Oncorhynchus keta*.
16. Present names of hybrids in the abstract and text; include gender of parents if necessary: sunshine bass (female white bass *Morone chrysops* × male striped bass M. *saxatilis*). You may use common names of hybrids in *Names of Fishes* without indicating the parent species.
17. Form most fish name plurals by adding *s* or *es*, with stem changes as required; e.g., bluegills, guppies, ciscoes, walleyes, alewives; but steelhead, yellowtail, trout, bass. This is not a complete list, so refer to the dictionary.
18. In the following cases, more than one plural is acceptable: Dolly Varden(s), drum(s), kokanee(s), ruffe(s), sculpin(s), sturgeon(s), tilapia(s). Make usage consistent within an article.
19. When the common name refers to more than one species, form the plural by adding e or *es* even if the singular and plural forms of the name are the same: coho and Chinook salmons (i.e., coho salmon and Chinook salmon); rainbow, cutthroat, and lake trouts (i.e., rainbow trout, cutthroat trout, and lake trout); white and striped basses (i.e., white bass and striped bass).

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Manuscript Components

Manuscripts should typically be assembled in this order: title, authors, and addresses (on one page); abstract (on the second page); introduction, study area, methods, results, discussion, acknowledgments (run-in on successive pages); references; all text footnotes (including address changes); appendixes; tables; figure captions; figures. The following notes expand on these items and detail acceptable deviations.

Headers.—Indicate levels of heads as follows:

Number One Head

Bold, flush left, important words capitalized (title capitalization).

Number two head

Lightface, flush left, capitalize only first word and proper nouns (sentence capitalization).

Number three head.

Bold, ends with period; text runs in. Capitalization as for number two heads.

Title.—The title should accurately reflect a paper’s content. The best titles—those that attract a reader’s attention and interest—are usually short (a dozen words or less) and crisp. For fishes, Latin binomials covered in the *American Fisheries Society’s Common and Scientific Names of Fishes from the United States, Canada, and Mexico* should not be included in the title. Authors of scientific taxa also should be omitted from the title except when their names are absolutely needed for clarification.

Author information.—Use superscript numerals (not the Word footnote function) to designate corresponding author, affiliations, and present addresses. For example:

Norman Stevens,[1,5,6] Robert E. McGibony,[1] Paige M. A. Knotley,[2] John Marshall Blue,[3] and Evan S. Alighieri[4]

[1]Department of Epidemiology, School of Public Health and Community Medicine, University of Washington, Seattle, Washington 98195

[2]The Marine Mammal Center, Marin Headlands, 1065 Fort Cronkhite, Sausalito, California 94965
[3]National Marine Fisheries Service, Southwest Fisheries Science Center, PO Box 271, La Jolla, California 92038
[4]Department of Environmental and Occupational Health Sciences, School of Public Health and Community Medicine, University of Washington, Seattle, Washington 98195
[5]Current address: 414 112th Avenue SE, Bellevue, Washington 98004
[6]Corresponding author: cetacea@uw.edu

Abstract.— The abstract should be a single paragraph of less than 500 words that summarizes the results and conclusions in concise and declarative prose. Abstracts should neither list the contents (this is presented; that is discussed) nor review the methods. Literature citations and footnotes are not allowed in abstracts. Abstracts obviate the need for formal text summaries. Because they are widely circulated by abstracting services, abstracts have much larger readerships than do full papers, and the abstract should represent the text fairly and accurately. Abstracts are encouraged, but optional, for *Issues and Perspectives*.

Introduction.—An introduction should set the context for the work to be reported and establish the purpose and importance of that work. It also should demonstrate the authors' awareness of the most pertinent literature, including review articles. However, a comprehensive literature survey may be deferred to the discussion section if this is more appropriate.

Study site.—A report of field studies may need a detailed site description, which can be given in a separate section of the manuscript. Limit the information to that needed for an understanding and interpretation of the results. If only a few words are needed to locate and describe the study site, include them in the introduction or methods. Maps are unnecessary if they only give information contained in standard atlases.

Methods.—Methodologies can be tedious to read, but it is better to be overly explicit than to omit details needed by a reader to evaluate the data or repeat the study. Previously published descriptions of equipment and procedures may be cited by reference, unless they are in theses, dissertations, agency reports, or other sources of limited availability. Clarity of expression is as important in the methods section as it is elsewhere in the paper. If the experimental protocol and equipment are particularly complex, they can be displayed in a table or figure. Similarly, the numerous variables needed for some mathematical developments may be listed and defined in a table. Long papers that report diverse research may benefit if methodological details are split up and regrouped together with the respective results. This can help the reader to associate the data with the respective procedures. In such cases, a formal methods section can be restricted to matters common to all or most of the experiments: sources of fish, equipment, chemical analyses, or statistical tests, for example. Some papers, such as those concerned wholly with techniques or models, as well as review articles, may need no separate methods section.

Results.—Results traditionally follow methods, and need not be explicitly labeled as such if a more descriptive subheading is available. If results are presented in tables or figures, it is pointless to describe them exhaustively in prose as well; the text can be devoted to summary statements and analyses. Display data in tables if precision is important, in figures if trends are paramount. Although long lists of raw data are undesirable, basic data should not be refined to the degree that a reader can neither verify the analyses nor use the information for other purposes. Statistical testing is an important part of most analyses, but it should not obscure biological insight. Most importantly, the statistical designs and models used should be appropriate for the study. Although most scientific decisions are based on a statistical probability of error of 5% or less, we have no requirements regarding significance levels. Decision probabilities should balance the sacrifice of biological information against the consequences of being wrong. Authors should take special care to critically evaluate large data sets and appendices to determine which can be submitted as Supplemental Material.

Discussion.—The value of a paper can be greatly enhanced by a good discussion. This is the place to relate what has been learned to what is known, to create new syntheses, to search for generalities, to establish basic principles. The weakest discussions are brief literature surveys appended to mechanical restatements of the results; these usually should be integrated with the results in a single section of the paper. The strongest discussions are true scientific essays that materially advance understanding of their respective fields. Most discussions fall between these extremes because they are founded on limited research objectives, but a thoughtful and scholarly discussion can transform a pedestrian paper into a remarkable one. The quality of a discussion is inversely related to redundancy, wordiness, and unfounded speculation. It is better not to make a point than to burden it with a paragraph of qualifications. The

work of others, when cited, should be attributed carefully and accurately. Transitions from evidence to intuition need explicit identifications.

Acknowledgments.—Place grant and contribution numbers and organizations in the acknowledgments. Acknowledge only people and institutions that contributed directly to the research or to the manuscript's quality.

References.—Select references with care. Minimize references to progress reports, unpublished papers, abstracts of papers given at conferences, and manuscripts in preparation or under review—except to acknowledge (in the *Acknowledgments* section) intellectual debt. Although theses, dissertations, final reports, and institutional documents of limited or no circulation often contain useful data and may be cited, such sources rarely have been subjected to external review and should be cited sparingly. Authors may be requested to provide unpublished reports if they are required by the referees. Reliance on unpublished reports reduces an author's credibility. If unpublished data or personal communications must be cited, do so parenthetically in the text, giving initials, surname, and affiliation (not address) of the source; for example, (A. B. Jones, Institute for Aquatics, personal communication). Obtain written permissions from the appropriate people to cite unpublished data and personal communications, and be prepared to show such letters to the editor.

Follow the name-and-year system for literature citations; they may take either of two forms, depending on the context. Note the punctuation in the following examples:

1. Johnson (1995), Jones and Smith (1996, 1998), Rice et al. (1997), and Berger (in press) found walleyes in Lake Pollock.
2. Walleyes occur in Lake Pollock (Johnson 1995; Jones and Smith 1996, 1998; Rice et al. 1997; Berger, in press).

Cite both of two authors, but for three or more give only the first author plus "et al." Arrange multiple citations chronologically (oldest first) in a text sentence.

If their names are long, institutional authors may be cited as acronyms in the text, but such acronyms must be defined in the references. For example, "APHA et al. (1992)" cited in the text appears in the reference list as "APHA (American Public Health Association), American Water Works Association, and Water Environment Federation. 1992."

The reference list will follow *Scientific Style and Format, 7th edition*. Please submit your references in a style that approximates that as much as possible to facilitate copyediting. In the reference list, alphabetize entries first by the surnames of first authors or by the first word or acronym of corporate authors, then by the initials of first authors with the same surname, and finally by the surnames of coauthors. List multiple papers by the same author(s) chronologically by year of publication. Distinguish papers by the same author(s) in the same year by lowercase letters after the year (1998a, 1998b). Substitute "in press" for the year if a paper has been accepted for publication but page numbers are not yet available.

Completely spell out all bibliographic information, including serial titles. We allow only these abbreviations:

1. first and middle initials of authors and editors;
2. abbreviations that occur in the titles of articles and books and in the names of authors;
3. ordinal numbers (2nd edition, 4th congress) other than those spelled out in titles

Examples of common bibliographic formats follow.

(1) Articles in journals and other periodicals listed in BIOSIS Serial Sources (BIOSIS, Philadelphia), but see exception for AFS book series in (3) below: author(s); year; title; serial; volume; issue (if needed); inclusive pages. Include the issue number only when each issue starts with page 1.

Crawshaw LI, Lemons DE, Palmer M, Messing JM. 1982. Behavioral and metabolic aspects of low-temperature dormancy in the brown bullhead, Ictalurus nebulosus. Journal of Comparative Physiology B 148:41–47.

Hochachka PW. 1990. Scope for survival: a conceptual “mirror” to Fry’s scope for activity. Transactions of the American Fisheries Society 119:622–628.

Kennedy VS. 1990. Anticipated effects of climate change on estuarine and coastal fisheries. Fisheries 15(6):16–24.

Kent ML, Traxler GS, Kieser D, Richard J, Dawe SC, Shaw RW, Prosperi-Porta G, Ketcheson J, Evelyn TPT. 1998. Survey of salmonid pathogens in ocean-caught fishes in British Columbia, Canada. Journal of Aquatic Animal Health 10:211–219.

(2) Book: author(s); year; title; edition (other than 1st) or volume (if part of a series); publisher; city; state, province, or country (only if needed to locate city). Omit the number of pages.

[APHA] American Public Health Association, American Water Works Association, and Water Environment Federation. 1992. Standard methods for the examination of water and wastewater. 18th edition. Washington, D.C.: APHA.

Hoar WS, Randall DJ, editors. 1988. Fish physiology. Volume 11, part B. New York: Academic Press.

Rheinheimer, G. 1985. Aquatic microbiology. 3rd edition. New York: Wiley.

Waters TF. 1995. Sediment in streams: sources, biological effects, and control. Bethesda, Maryland: America Fisheries Society. Monograph 7.

(3) Article in a book (including those in the AFS “serial” books—Special Publications, Symposia, and Monographs): author(s); year; title; inclusive pages; editor(s); book title; publisher; series name (if appropriate); city; state, province, or country (only if needed to locate city). Identify conference proceedings by year of publication, not by the year of the meeting, and give the publisher’s name and location (i.e., where the proceedings may be obtained), not the location of the meeting.

Adams SM, Breck JE. 1990. Bioenergetics. Pages 389–415 in Schreck CB, Moyle PB, editors. Methods for fish biology. Bethesda, Maryland: American Fisheries Society.

Campton DE. 1995. Genetic effects of hatchery fish on wild populations of Pacific salmon and steelhead: what do we really know? Pages 337–353 in Schramm HL Jr, Piper RG, editors. Uses and effects of cultured fishes in aquatic ecosystems. Bethesda, Maryland: American Fisheries Society. Symposium 15.

Livingstone AC, Rabeni CF. 1991. Food-habitat relations of underyearling smallmouth bass in an Ozark stream. Pages 76–83 in Jackson DC, editor. The first international smallmouth bass symposium. Mississippi Agriculture and Forestry Experiment Station, Mississippi State University, Mississippi State.

(4) Dissertation or thesis: author; year; title; dissertation; university; city; state, province, or country (only if needed to locate city).

Chitwood JB. 1976. The effects of threadfin shad as a forage species for largemouth bass in combination with bluegill, redear, and other forage species. Master’s thesis. Auburn, Alabama.: Auburn University.

Hartman KJ. 1993. Striped bass, bluefish, and weakfish in the Chesapeake Bay: energetics, trophic linkages, and bioenergetics model applications. Doctoral dissertation. College Park.: University of Maryland.

(5) Government publication: author(s) or agency; year; title; agency; type and number of publication; city; state, province, or country (only if needed to locate city).

[EPA] U.S. Environmental Protection Agency. 1986. Quality criteria for water. Washington, D.C.: EPA. Report 440/5-86-001.

Gimbarzevsky P. 1988. Mass wasting on the Queen Charlotte Islands: a regional inventory. Victoria: British Columbia Ministry of Forests and Lands. Land Management Report 29.

(6) Contract report: author(s); year; title; organizations that issued the report (if different from the author); organization that received the report; receiver's city; state, province, or county (only if needed to locate city).

Smith AB. 1986. Turbine-induced fish mortality at Highrise Dam, 1985. Report of Robertson Consultants to Prairie Utilities, Jonesville, Alberta.

(7) Internet citations: author(s) or agency; year; title; publisher; URL; month and year accessed.

Baldwin NA, Saalfield RW, Dochoda MR, Buettner HJ, Eshenroder RL. 2000. Commercial fish production in the Great Lakes 1867–1996. Great Lakes Fishery Commission. Available: www.glfc.org/databases/commercial/commerc.php: (September 2000).

Note that only the first words and proper nouns of English titles are capitalized. In German titles, all nouns are capitalized. Retain italics when they are used in the titles cited.

Lists.—Use Word's list function unless the text is to appear in paragraph style.

Footnotes.—There should be no in-text footnotes. Although footnotes will be used to designate information such as corresponding author e-mail or present address, they will follow the address section and be in text (not footnote) format; do not use the Word footnote function. Information regarding availability of supplementary materials and disclaimers of product endorsement can be included in the text or the acknowledgments.

Tables.—For typesetting purposes, it is more important that a table be formatted correctly upon submission than for it to approximate the look of the final paged document as it would appear in print or online. Organize tables to convey the greatest amount of coherent information with the least amount of wasted space and redundancy. Do not repeat column heads unnecessarily. Tables should appear as Word tables or in Excel if necessary. Do not submit tables in which the data are separated by tab characters.

Table caption.—This should appear outside of the table. Each table should be clearly labeled and numbered, even if there is only one table.

Table column heads.—These should each appear in individual cells. For heads that straddle columns (or other column heads) please merge the cells over the desired columns. Do not use hard returns to break column heads. Do not repeat the column heads if the table continues on to another page in the word processing document—breaks will occur (if they occur) at different places in the typeset file and will be automatically inserted.

Table body.—As tables will have alternate line shading when typeset, do not use shading to indicate meaning. Instead either use bold, italic, or bold italic text, or use footnote indicators. Do not use hard returns within the body of the table, except to indicate a list that should appear within the cell. Do not attempt to align data by using keyboard spaces or tabs. To indicate a structured indent in the stub column, use either the Word emspace character or an indent. Do not use blank columns or rows to indicate extra space.

Table footnotes.—Use lowercase superscript letters to indicate footnotes. The footnotes themselves should not appear in the body of the table, but outside it. Asterisks may be used to indicate probability.

Miscellaneous table information.—Place a zero to the left of the decimal point for fractions smaller than one. Pay attention to the number of significant digits, regardless of what a computer may have printed out. Although fractions of a percent may be statistically justified in some cases, they rarely convey more meaning in biological work than do rounded, whole percentages.

Use the table caption or footnotes to identify nonstandard symbols and abbreviations. Footnotes take lowercase letter superscripts, which occur in alphabetical order. List footnotes below the table.

In column and row headings, capitalize only the first word, proper nouns, and appropriate symbols. Horizontal ruled lines are inserted by the typesetting software, but their placement in the submitted document can be used to distinguish column heads from the table body. Vertical lines are never allowed. Use line spacing of at least 1.5 for the caption and entries and continue the table on additional pages, if necessary. Do not reduce type size for tables.

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Policy Review

On December 10, 2008, U.S. Fish and Wildlife Service Director's Order No. 196 was released. The Order explicitly supersedes all previous Service guidance on policy review for scientific documents submitted for publication by Service employees (including external journals as well as the *Journal of Fish and Wildlife Management* and *North American Fauna*). The Order also has implications for non-Service authors publishing in the *Journal of Fish and Wildlife Management* and *North American Fauna*. During the online submission process for either journal, the submitting author is required to confirm that all contributing authors (Service or otherwise) have read, understand, and are in compliance with the guidance provided in the Order.

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