

Draft

Southern Research Station Authors Guide

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Forest Service
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This guide is a revision of the Pacific Northwest Research Station Authors Guide. This authors guide is for anyone wanting to publish technical information through the Southern Research Station. It explains our policies and procedures and provides formatting instructions. We welcome suggestions for clarification, additions, or other improvements. Several ideas from users have been incorporated into this revised edition.

The more closely a submitted manuscript approaches the Southern Research Station style, the more quickly it can be printed.

Abbreviations

ANSI	American National Standards Institute
Comm	Communications Group
Department	U.S. Department of Agriculture, also USDA
FS	Forest Service
FSH	Forest Service Handbook
FSM	Forest Service Manual
GPO	Government Printing Office
NTIS	National Technical Information Service
PM	Program Manager
SRS	Southern Research Station
WO	Washington Office

Publication Categories

Category	Audiences	Cover	Class of material
Research Papers (RP)	Scientists and resource managers	Separate, if more than 32 pages	Results, analyses, conclusions of formal studies or experiments
General Technical Reports (GTR)	Researchers, resource managers, general forestry public	Separate, if more than 32 pages	Information of a technical nature, but not an original report; proceedings, computer programs, annotated bibliographies, and so forth
Resource Bulletins (RB)	Scientists and resource managers	Separate, if more than 32 pages	Economic information of permanent value on timber and other forest resources or their utilization
Research Notes (RN)	Scientists and resource managers	Self	Observational information on new techniques or instruments, especially of how-to-do-it type or incidental discovery
Science Update (SU)	General public, members of Congress, cooperators, and supporters	Self or separate	Annual reports, State update sheets, interpretive brochures, program/project descriptions
Unnumbered publications	Any FS audience, depending on subject matter	Separate, if more than 32 pages	Nontechnical information that does not become part of forestry literature, such as publications lists, facilities brochures, and forest guides

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Editing Symbols	inside back cover

The following sections cover the guidelines for producing technical publications followed by the Southern Research Station. They incorporate the requirements specified by the Department of Agriculture and the Government Printing Office. There are no hard-and-fast rules but manuscripts that most closely follow these guidelines get through the production process faster and more efficiently.

Parts of the Manuscript

Cover

Department regulations govern the design of covers. The format must fit Department specifications for typeface, type size, and placement of art, title, and authors' names. Department regulations also govern what goes in the identity strip, including logos. Deviations require written justifications that provide details on the specific requirements of your audience or material.

Research Papers, General Technical Reports, and Resource Bulletins have covers; Research Notes, administrative reports, and most miscellaneous publications do not. If a publication has more than 32 text pages, a cover of heavier stock and a second ink color is allowed; for those with fewer than 32 pages, the cover must be a "self-cover," meaning it is the same paper stock and ink color as the text. Suggestions for cover designs from the authors are appreciated. Finished cover designs are sent to the author for approval.

Title Page

Title—Choose the title carefully for brevity and clarity. Avoid unnecessary words and nouns strung together as modifiers. If a binomial is used, give only the genus and species (not the authority). Key the title of the manuscript flush left, uppercase and lowercase letters.

Byline—Key the authors' names flush left, uppercase and lowercase letters, and below the title. Show the names the way they should appear on the publication. List as authors only those people who have contributed significantly; FSM 1631.41 says, "If more than one employee contributes to the preparation of a publication, assign authorship status on the basis of the employee's degree of participation." Show other contributions in the Acknowledgments section.

Author statement—Prepare a statement that gives the author name(s) in uppercase and lowercase letters, working title rather than administrative title (examples: *silviculturist*, *geneticist*, *economist* not *Project Leader*), affiliation, and address (city, State, and ZIP Code). If all are SRS authors, only the working title and address are needed for each. If an author's affiliation has changed, include the new one, if available.

Abstract, Citation, and Keywords

All SRS publications require an abstract, which provides a synopsis of the paper for researchers and reference librarians searching computerized data banks of technical information.

The abstract should neither refer to figures, tables, or footnotes nor contain bibliographic references. Avoid acronyms and abbreviations. At first mention, give both scientific and common names of organisms; thereafter, use the name appropriate to the audience.

Keep the abstract between 200 and 250 words. For all SRS papers, key the abstract on page 2 of the manuscript.

List five to seven keywords in alphabetic order after the abstract. Select terms that will help in retrieving the publication. Include terms used in the title because not all computer programs search titles.

Summary

The summary is an expanded informative abstract. It is a synopsis of the study highlights including the purpose, scope, and major findings. Findings that might be applied by resource managers should have special emphasis.

A summary is optional for most publications, and is inappropriate for Research Notes and unnumbered publications. The summary follows the abstract and is in the same format as the text.

Preface

The function of a preface is to give the author's rationale for writing the paper. A preface is not necessary in most SRS publications. It is used only in major works or in papers that are part of a series, for example, the anadromous fish habitat series at the Pacific Northwest Station or the old-growth series here in the South. When a preface is used in a series, the same wording is used in each publication of the series. The preface is brief and can include acknowledgments at the end. Authors' names usually are given at the end of the preface; occasionally the Director's name is used instead (but only with permission).

Cooperation

Authors are responsible for acknowledging contributions by Government and non-FS cooperators (FSM 1631.44), as well as cooperation with other agencies. A manuscript to be published in cooperation with another Government agency must have the approval of the cooperating agency before it is sent in for editing.

Acknowledgments

Recognition in footnotes or an acknowledgments section is appropriate for people who provide peer reviews, install plots and instruments, collect data, do laboratory evaluations, manage data, supervise computer runs, and do similar activities. The FSM (1631.44) says "In Forest Service publications, acknowledge contributions by non-Government and non-Forest Service cooperators as well as significant contributions of technical advice by outside parties."

Avoid flowery, wordy expressions of gratitude; simple, straightforward credit is better (example: We thank John Smith for identifying the larvae not The authors wish to express their lasting gratitude for the generous contribution of larval identifications by John Smith).

The FSM goes on: "Also acknowledge significant original scientific contributions in artwork, freehand art or illustrations, and photographs by Government employees in appropriate acknowledgment sections. It is also appropriate to acknowledge outstanding editing, checking of statistical materials, indexing, or design and layout, regardless of whether the Government financed the publication. Acknowledgments of contributions by cooperators should clearly indicate the nature and extent of the cooperation."

Citations

Make sure that (1) assertions not supported by data have literature citations, (2) there is a citation for every reference and (3) a reference for every citation (text, tables, or figures). Use lowercase letters to distinguish references that have the same author(s)/year (example: *Miller and Wear 2001a*).

Tables, Tabulations, and Lists

A table is a collection of related data, usually presented in three or more columns for easy comprehension. It has a number and a title and stands alone (that is, it is complete enough that it needs no explanation in the text). A table does not duplicate information in the text or in a figure.

A tabulation is data presented in the text; it has at least two columns, but not more than three (if more than three, make it a table); and is usually preceded by a sentence (ending in a colon) explaining the tabulation. If a tabulation is mentioned later in the text, it must be changed to a table and given a table number and a title. Footnotes in tabulations are numbered consecutively with the text footnotes and are listed with them at the bottom of the page. A tabulation looks exactly like a table but without the top and bottom lines found in a table. When the final layout is prepared, the headings in the tabulation will be made bold to stand out from surrounding text. (Note: If converting from a table to a tabulation requires excessive wrapping of text, leave it as a table.)

A list is a single column of data in the text, usually preceded by an introductory sentence ending with a colon. It is never labeled as a table. Items are listed by number if order is important, or with bullets if the order of the items is not a factor. When building lists, make sure all items are parallel. Avoid mixing phrases with complete sentences. If you start items with an *-ing* or *-ed* verb, do so all the way through the list. Do not punctuate items in a list unless they are complete sentences. Do not key an *and* at the end of the penultimate item.

Figures

A figure is any map, chart, or other graphic display of information. It has a number and a caption and stands alone (that is, it is complete enough that it needs no explanation in the text). A figure does not duplicate information in the text or in a table.

Photographs

All photographs, including those on the cover, must have captions, but they do not need to be numbered as figures unless they are referred to in the text.

Personal communications, correspondence, and unpublished references (footnotes)

Required information for personal communication—year, author's full name, job title, and complete address including ZIP Code.

Example: ***Personal communication. 1999. A.B. Smith, Research Forester, Froghat Corporation, P.O. Box 10, Medusa, MS 10101.***

Required information for personal correspondence—author's full name, year, document title, and complete address including ZIP Code where document is on file.

Example: ***Smith, A.B. 1999. Letter dated January 1 to Alan Romero. On file with: ROCORP, 100 River Road, Salmonella, ID 01010.***

Required information for unpublished references—author's full name, date, title, number of pages, document type, and complete address including ZIP Code where document is on file.

Example: ***Smith, A.B. 1999. Observations on responses of loblolly pine to recorded music. 29 p. Administrative report. On file with: ROCORP, 100 River Road, Salmonella, ID 01010.***

Example: ***Smith, A.B. January 1, 1999. Observations on responses of loblolly pine to recorded music. 29 p. Unpublished report. On file with: ROCORP, 100 River Road, Salmonella, ID 01010.***

Required information for unpublished manuscript in preparation—author's full name, title, document type, and complete address including ZIP Code of author.

Example: ***Smith, A.B. Observations on responses of loblolly pine to recorded music. Manuscript in preparation. Author can be reached at Froghat Corporation, P.O. Box 10, Medusa, MS 10101.***

Other Footnotes

Footnotes are indicated in the text by superscript numbers. Try to limit the use of footnotes to personal communications and unpublished materials. Required information for personal communications are the name and job title, affiliation with complete address—including ZIP Code—and date of communication. Required information for unpublished materials are the name and job title of the person holding the material along with affiliation and complete address—including ZIP Code—and the number of pages. Footnote numbers follow all punctuation marks except a dash but are inside a closing parenthesis if the footnote applies only to the parenthetical statement; example: ***The publication,¹⁶ which was written in 1929 to describe air-¹⁷ and water-born pollutants (as Thomas indicated in an earlier work¹⁸) by an anonymous author.¹⁹*** If you refer again to material already footnoted, follow this example: ***These areas totaled about 1,900 acres (see footnote ²³).*** In a publication divided into chapters, footnotes begin with 1 in each chapter.

Footnotes in tabulations are numbered because tabulations are part of the text.

Footnotes in a table or appendix are lowercase, italic letters.

Appendix

If the manuscript contains multiple appendices, use uppercase letters to distinguish them (**A, B, C**...not **1, 2, 3** and not **I, II, III, IV**).

Explanations and elaborations not essential to the text, but helpful to the reader, belong in an appendix, as do texts from other documents, laws, and other documents used to substantiate your paper. Lists of common and scientific names of species, other long lists, questionnaires, forms, how-to explanations, figures, and supplementary tables also can go in appendices,

Appendix tables and figures are numbered separately from those in the text (examples of titles and captions: **Appendix table 1**— and **Appendix figure 1**—).

Permissions, Disclaimers, and Credits

Copyrighted Material

To reproduce copyrighted tables or illustrations, you need written permission of the copyright owner, usually the publisher. You also need written permission for using personal correspondence or unpublished communications as support for your data. Send a photocopy of the page on which you mention a personal communication to the person you quote or paraphrase. Send copies of the written permissions to Comm when you send your manuscript for editing.

Photographs

All photographs must have attributions. Add the attribution to the caption; example: **Photo courtesy of John Stanturf 1999**. Written permission is required if you want to use any photographs that are not in the public domain (those taken by Federal employees on Government time). Include a copy of the permission you received from the publisher and add a reference for the publication to the Literature Cited section. If the photo was taken by a Government employee or another individual (other than the author or authors) and has not appeared in a publication, add the attribution in parentheses at the end of the caption **Photo courtesy of G. Bengsten. Photo courtesy of The Nature Conservancy 1999**.

Color Printing

Permission to print in more than one color (including color photocopying) must be requested from the WO by the production editor with strong justification—such as to identify organisms or depict damage—supplied by the author. Prepare your paragraph of justification and send it with your manuscript.

Brand Names

Avoid using commercial names of equipment, pesticides, and so on. If you must mention a product or company, include the following disclaimer statement, which goes in a footnote at the first mention of a trade name and is used only once in a paper: **The use of trade or firm names in this publication is for reader information and does not imply endorsement by the U.S. Department of Agriculture of any product or service.**

Pesticide Statement

Papers mentioning pesticides must include one of three possible statements about pesticides, usually printed on the inside front cover of the published paper. The three are shown in FSH 1609.11, sec. 17.3, but the following statement is the one most often used in publications reporting research:

This publication reports research involving pesticides. It does not contain recommendations for their use, nor does it imply that the uses discussed here have been registered. All uses of pesticides must be registered by appropriate State and Federal agencies before they can be recommended.

CAUTION: Pesticides can be injurious to humans, domestic animals, desirable plants, and fish or other wildlife if they are not handled or applied properly. Use all pesticides selectively and carefully. Follow recommended practices for the disposal of surplus pesticides and pesticide containers.

Preparing Text

These instructions apply only to manuscripts being prepared for printing as SRS publications. FSH 1609.11 has instructions for preparing manuscripts to be published by the WO or the Department. Journal articles and proceedings papers should be prepared to conform to the style and format of the specific outlet.

Style

Style, as used here, is the custom or plan followed in spelling, capitalization, punctuation, and typographic arrangement and display. Usage is the way words are used in a language community—here, the scientific community.

Headings

Three grades of headings are usually sufficient for most papers. All headings are flush left and formatted as follows:

- Number One Heads: separate line, bold, underline, caps for all words except articles and connectors.
- Number Two Heads: separate line, bold, caps for all words except articles and connectors.
- Number Three Heads: paragraph heading followed by an em dash, bold, only first word capped. Text begins immediately after the em dash.
- Number Four Heads: paragraph heading followed by an em dash, bold italic, only first word capped. Do not use unless absolutely necessary. Text begins immediately after the em dash.

Keyboarding Instructions

If authors and others who key manuscripts follow these guidelines, manuscripts will move more quickly through editing and desktop publishing.

- Enter the first author's name and page number in the upper right corner of each page.
- Turn off the hyphenation function.
- Use the paragraph formatting mode to double space all text, literature citations, footnotes, and figure captions. Single space tables.
- Insert one space after all punctuation, including end-of-sentence punctuation.
- Insert one blank line between paragraphs.
- Paragraphs, headings, footnotes, and figure captions are flush left. Literature citations are flush left with a two-space hanging indent and followed by one blank line.
- Quoted material must be keyed exactly as in the original, including spelling and punctuation. Quotes of less than five lines are run into the sentence and are enclosed in single quotation marks. Quotes of more than five lines are indented three spaces from each margin with quotation marks omitted. Quotes within quotations are set off by double quotation marks. When using single or double quotation marks, place commas and periods inside the closing quotation mark; other punctuation marks go inside only if they are part of the quoted material.
- Do not capitalize the following words when referring to them in the text: table, figure, chapter, section, appendix; if figures are referenced in parentheses, abbreviate them; example: (*see fig. 1*) not (*see figure 1*).
- Avoid contractions and inanimate ownership. Correct: *does not*, *cannot*, *diameter of the log*; incorrect: *doesn't*, *can't*, *the log's diameter*. Do not use a possessive form when actual possession or ownership is not implied; examples, *Users Guide*, *Writers Aid Shelf, 1990s*.
- Spell out acronyms at first mention in manuscript. Sentences may begin with an acronym, after first mention in text.

Scientific Nomenclature

- Give scientific names for all species at the first mention in the text. Scientific authorities are optional, but if used, they should be used consistently throughout. If the audience for the paper is primarily scientists, you may use scientific names throughout the text (as you do for organisms not having common names), but common names are often easier to read. If the paper is intended for a broad audience, use common names throughout. If

many species are mentioned, consider preparing a list of common and scientific names to avoid cluttering the text with parentheses.

- After the scientific name has been given, use accepted shorthand when repeating references to the same genus. For example, *Sequoiadendron giganteum* can be referred to as *S. giganteum*. But the genus must be spelled out if another genus beginning with *s* has crept in since the first reference to *S. giganteum*.
- The genus and species are italicized, but authorities are not. The genus is always capitalized and the species is always lowercase. Taxa higher than species are capitalized but not italicized.

Metric and English Units of Measure

Do not abbreviate English units; use *per* instead of the slash (/). For metric, abbreviate units even at the first mention, and use the slash (/) or the superscript (example, kg^{-1} , *20 to 80 kg/ha/year*) for *per*.

Numerals

- Use numerals with units of time, measure, and money (*6 years, 12 meters, \$240*); otherwise, spell out the number (*five plots, two experiments, eight trees*) unless the number is 10 or above (*10 replications, 150 moths*) or the number is in a series with numbers 10 or above (*2 moths, 11 mayflies, and 23 snails*). For English units, use commas to separate groups of three digits on the left of the decimal point and print solid on the right (*15,798,428.65938*).
- For metric units, in numbers of two to four digits, run the numerals together (example: *8429*); for more than four digits, use blank spaces to separate groups of three (example: *15 798 428.659 38*). Even if you use metric units in your manuscript, show other measures in the paper in the traditional way; examples, *1,000 trees in 21 000 ha* not *1000 trees in 21 000 ha* and *36,000 seeds in 21 000 ha* not *36 000 seeds in 21 000 ha*.
- In a number less than 1 (example: *0.78*) that appears in the text, a zero always precedes the decimal point.

Mathematical Equations

Write mathematical equations as you do sentences; for example,

$$TEF = BAF / (0.005454D^2n) \tag{1}$$

where

TEF = tree expansion factor

BAF = basal area factor of prism or single gauge

D = diameter at breast height

n = number of sample plots

The equation is centered between the left and right margins on a separate line. A comma follows *equation (1)* to break the sentence before the equation variables are defined. Another example is:

$$\textit{Initial population size} = \textit{number removed during period} / \textit{mortality rate} \tag{2}$$

where a comma is again used; but notice in *equation (2)* that no space precedes the comma because *equation (2)* is expressed in words.

Because these equations are referred to in the text, the equations are numbered. The equation number is flush right and in parentheses. If an equation requires more than one line, the number goes on the last line. On the line below *equation (1)*, *where* is flush left with no punctuation. When numbered equations are referred to in the text, the number is in parentheses. Variables in the text are italicized.

The slant line is preferred to the horizontal fraction symbol. Operational signs (such as /, x, +, -, and =) have one space before and after them. For long, complex equations, you may have to break the equation because it exceeds the width of the page. If so, break it before the sign of operation; the next line starts with the operational sign aligned with the first term to the right of the equal sign:

$$\begin{aligned} Hm = 1.3716 + a+b / 100m - 1.3716 + C (An) \\ + d / (H100m - 1.3716) (An) \end{aligned} \tag{3}$$

MathType® is the preferred software for formatting equations. Normally, one explanation of equation variables is adequate.

The correct order for signs of aggregation, beginning with the inside parenthesis, is { [({ () })] }.

Preparing Tables (See examples in Appendix A)

General

- Never embed tables in the text of your manuscript. Make each table a separate file and place all tables at the end of the manuscript, after the literature cited and before the figures.
- Do not repeat material from a figure to a table or vice versa. Choose the best format to display the information . . . once.
- Explain everything fully in the title and notes so that the table can stand alone.
- Number tables consecutively with Arabic numerals, with the table number separated from the title by an em dash, and mention each in order in the text. The numbering continues through the text and begins anew for the appendices. Appendix tables need not be mentioned in the text, but if they are, the mentions can be out of numerical order.
- Consider size and page orientation when developing tables. If you cannot keep your table to portrait standard width (3 3/8, 5 1/2, 7 1/4, or 8 1/2 inches) or landscape orientation, consider breaking the table into two. Guard against the temptation to sacrifice readability for efficiency.
- Use a table editor or tab settings to create tables. If using tab settings, do not add spaces, hard returns, or empty columns to separate or line up data.
- Capitalize only the first word of each entry and proper nouns in a table; this includes the title, headings, column entries, and footnotes. In text, the word **table** is not capitalized unless it starts a sentence.
- With the exception of metric, use abbreviations only when space is limited. Spell out **per** with English units of measure when space allows. If English units are abbreviated, substitute a slash (/) for the **per**.
- Use a slash or negative superscript numeral with metric units of measure (example: **kg⁻¹**, **cm/day**) for per.
- Use numerals in all parts of a table, except round numbers as units of measure (examples, **Hundred feet** and fractions at the beginning of a footnote), which should be spelled out.
- If a number in the data column is less than 1, place a zero before the decimal point (example, **0.89**).
- Every cell must have data, an em-dash, or N/A with a note below the table explaining meaning.

Parts of the Table

Title—Give each table a complete title that answers these questions: **What? Where? When?** Describe the stub column, the data columns, and the main limiting factors—agent, place, and time. Put all other information in footnotes. Capitalize only the first word of the title and proper nouns. The table title is the same point size as table text, boldface, with an em dash after the table number. It is not a complete sentence and does not end in a period. If you find the need for a period and a new sentence in your table title, try adding a semicolon between the sentences or, better yet shorten the title and put the extraneous information in footnotes.

Stub column—The stub column is the column at the far left; words and phrases in the stub column label the horizontal lines of data.

Data column—A data column refers to any column to the right of the stub column.

Headings—All columns have headings, including the stub column. The box headings are the main headings at the top of the table. The row headings and subheadings are the entries in the stub column. Capitalize only the first word and proper nouns of headings.

Field spanner—Field spanners are boldface headings for large related sections of a table and are placed centered over data columns, without leaders; they can also be used for units of measure.

Total and average—The words **Total** or **Average**, always singular and indented five spaces, using tab spacing, do not usually require additional explanation in the stub column. Use a rule (horizontal line) to show that the total applies to multiple columns. The stub column heading for the final total, when there are subtotals, is flush left.

Notes—Put explanatory information and other unlettered notes below the ending table line and above any footnotes in 8 point—examples: **NA = not available**, **— = negligible**, or **— = not applicable** (or whatever you mean by the dash). Put a period at the end of the note. Separate unlettered notes with a semicolon.

Footnotes—Each table has its own footnote letters when footnotes are necessary. The letters are lowercase, superscript, italic, and one point size larger than point size of table text. Footnote letters are always placed at the

end of a heading—not in the middle. The letters also go after the complete entry in the stub and data columns. If two footnotes appear together, separate them with a space, not a comma. Footnotes are in alphabetical order from left to right, top to bottom; in headings, from main heading to subheading.

Source notes—Source notes, such as *Source: Bureau of Land Management, U.S. Department of the Interior (1990)* are formatted like footnotes, with a period at the end of the note, and are 8 point.

Sizes and Spacings

- Text of table should be single spaced and no smaller than 8 point. Bold fonts are used only for the title and field spanner, and are not acceptable anywhere else in the table.
- Keep line spacing within the table body to a minimum to conserve space. Place one blank line after the title and before the table body and one blank line after units of measure and the field spanner (if present). Place one blank line between the table body and footnotes.
- Horizontally align the data columns with the last line of the entry in the stub column.
- Keep a minimum of 2 spaces between data columns. Do not let any part of one column run into (overlap) another column; this includes the stub column.
- Each table has three rules (horizontal lines from margin to margin): above and below the column headings and at the end of the table. When the table has a total row, key in a .5 point rule immediately under the data, then add a half blank space before the total. Use a rule instead of a blank line to indicate totals within subsections, and a blank line before the grand total.

Alignment in Columns

- In the stub column, align the box heading and all row headings flush left. If a heading or subheading takes more than one line, indent runovers (the part that will not fit on one line) two spaces.
- Box headings are center aligned over column data.
- For data columns with whole numbers, an *NA*, or an em dash, align right.
- For data columns that consist of decimal numbers and/or whole numbers that are totaled or averaged, align data on the decimal (whether visible or implied).
- For nontotaled data columns that have whole numbers and decimals, right align.
- For data columns that have mathematic symbols ($=$, $<$, $>$, $-$), align on the symbol with a blank space before and after the symbol; center all other entries.
- For data columns that mix text and numbers, align left.
- For data columns with text only, align left.
- Use two spaces to indent runovers in data columns or—if space permits—separate entries with a half space line instead of indenting the runover.

Units of Measure

Units of measure appear above the data columns and below the second table line. If all the entries are 1 or less (example, *0.97*), make the unit of measure singular; otherwise, make it plural.

Units of measure are in lowercase italic and in the same font and point size as the table. If space permits, spell out English units of measure. Always abbreviate metric units of measure.

If the same unit of measure applies to several adjacent columns, center it over the columns and add leaders (hyphen, space, hyphen) on both sides to bridge (but not overlap) those columns. Do not use leaders if the same unit applies to all the data columns or if the unit of measure is wide enough to extend over its columns. The unit of measure for the stub column is flush left.

Preparing Figures (See examples in Appendix A)

Never embed figures in the text of your manuscript. All words in each figure are spelled out. Symbols must be explained in the figure or its caption and not in another illustration or in the text, but the interpretation (explanation) of the figure is done in the text. Clearly label each diskette, ZIP™ disk, or CD with the software package used and its version.

Numbers and Captions

Number all figures in the order mentioned in the text. The word **figure** is not capitalized in the text unless it begins a sentence; it is abbreviated (**fig.**) when used parenthetically. The numbering continues through the text and begins anew for the appendices. Footnotes do not belong in a figure; include the information in the caption or in the text.

Each figure needs a caption describing what is shown, but avoid the obvious **map of . . .** or **chart showing . . .** Like table titles, a figure caption has an em dash after the figure number (**Figure 1—**) and should not be a complete sentence, but it differs from table titles in that it is followed by a period. List all captions together on a separate page at the end of the manuscript after the tables. Separate figure captions from each other with an extra return.

Charts

Line and bar charts—For grid lines, use a 50-percent screened dashed line (if simple) or a 50-percent solid line (if cluttered); an alternative to grid lines is to use tick marks inside the x- and y-axes. Whenever possible, place legends inside the chart; avoid boxing legends that are outside the chart limits. (If the x- or y-axis involves a unit of measure, it must have a label.) Axis labels are initial caps, sans serif, and 9- to 10-point type. Do not submit charts in 3-D format.

Pie charts—No boxes around pie charts.

Maps

- Try not to place boxes around maps.
- Only use a North arrow if the map is not oriented in the traditional North-South direction or if North is not logically apparent.
- If the map requires a distance scale, use a bar scale with lowercase text.
- North arrows and distance scale should be proportional to the map (don't make too large).

Legends

- Use of boxes around legends should be consistent throughout the manuscript.
- Legend titles are appropriate if needed for clarity (example, to show units of measure); titles are centered, sans serif, initial capitalized and equal to 10-point type in the published manuscript.
- Boxes showing values (shading, patterns, or color) are aligned left; value descriptions are aligned left, unless the descriptions are ranges involving mathematic symbols ($=$, $<$, $>$, $-$). Then they are centered on the symbol with a blank space before and after the symbol.

Graphics

See the section on Graphic Guidelines for additional instructions.

- Station papers will be printed in two-column format. Many figures can fit into a single column, but they must not exceed 3-3/8 inches wide by 8-1/2 inches high. Figures that need to be printed full-page width must not exceed 7-1/8 inches wide by 8-1/2 inches high. Landscape orientation of figures should be avoided but, if necessary, should not exceed 8-1/2 inches wide by 7-1/8 inches high.
- Use of boxes around charts, maps, and other graphics should be consistent throughout the manuscript; all lines within and around the graphics are 0.5 point, except for x- and y-axis lines, which are 1 pt. Special circumstances may occur with some illustrations. Line work should always be proportional to the figure contents.
- Lines in figures should be heavy enough and lettering large enough to permit reduction in the final layout.

- Figure fonts are sans serif, such as Helvetica or Arial.
- The overall design (type, line weight, and other visual keys) should be consistent across all figures in a manuscript; for example, if a solid green line represents volume in one graph, use the same solid green line for volume in all the other figures.
- If one figure has multiple charts or graphs and they need explanation in the caption, use an uppercase, bold, sans serif letter (**A**, **B**, **C**) (no more than 2 points larger than the text font) in parentheses in the upper left corner of each, preferably outside of the chart.
- Use three-dimensional graphs only when the data require three axes to be meaningful. Three-dimensional pie charts misrepresent data.
- Remove all signatures and initials on original artwork; instead, give credit in the acknowledgments or in a credit line at the end of the caption.
- Use descriptions (with units of measure in parentheses) for axis labels.
- Save each figure into an individual graphic file; file names should be lowercase and without spaces or underscores.
- The acceptable formats are as follows: for graphics use an editable .eps, not .eps printer file; for photographs use a .tif .
- Do not use Power Point (*.ppt) or WordPerfect graphics (*.wpg) to create graphics. Use Harvard Graphics (*.pre) only if the files can be converted to high resolution editable .eps (no less than 300 dpi).
- Save or export ArcView, SigmaPlot™, DeltaGraph™, and GIS maps as editable .eps files.
- Do not embed any graphics in the text of the manuscript.

Graphic Guidelines

Tips for Creating and Incorporating Figures into Research Documents

The purpose for these guidelines is to serve (1) as a guide for authors to create figures that require little or no manipulation during final layout, and (2) as a guide for layout artists to create figures according to the SRS styles for printed materials.

Basic Considerations

When preparing figures (charts, graphs, and drawings), the computer platform providing the final product for layout is important. In general, convert illustrated files—such as charts, graphs, and drawings—into placeable files. Placeable files are editable .eps files that can be simply placed or imported into a final document during layout from the harddrive or storage media (such as ZIP™ disk, or CD). The required format is an editable .eps for placeable files. Use .tif files for photographs. The following formats are appropriate:

- Microsoft® Windows™: editable .eps or native files in Adobe® Illustrator™, Macromedia® Freehand™, Adobe® Photoshop™, or DeltaGraph™
- Apple® Macintosh™: editable .eps, or native files in Adobe® Illustrator™, Macromedia® Freehand™, Adobe® Photoshop™, or DeltaGraph™

Native files that are created in an application and can be used directly from that application without further manipulation are acceptable if the native formats are compatible with Adobe® Pagemaker™, Quark® Xpres™, or other layout program. Otherwise file manipulation will be necessary to convert the files to placeable files as *.eps images.

A SigmaPlot™ file must be submitted as an editable .eps file. We cannot convert this native format to a useable file for layout.

Microsoft® Excel™ files are not preferred, but if no other application is available, they are acceptable. Since Microsoft® Excel™ files cannot be saved or exported as .eps files, they must be manipulated in Adobe® Illustrator™ or Macromedia® Freehand™ and saved or exported from the secondary applications to editable .eps files.

Many printers may be unable to print from the native files currently supplied by Federal and State agencies and their partners. When creating maps, provide the placeable files in editable .eps format. When maps are created in the native format (such as ArcView or ArcInfo), all the data and drawing files (such as *.shp or *.dbf) must be supplied on a CD, ZIP disk, or floppy disk to be manipulated in Adobe® Illustrator™ 10 or Macromedia® Freehand™ 10. Avenza® MAPublisher™ 4.0 will be used during layout to convert them to editable .eps files for final placement, if any color change, correction, or other manipulation is necessary. When working on maps in native format and no changes or color corrections are necessary, the files can be saved as editable .eps files and placed directly into the final layout.

Graphic Presentation

For styling the graphic elements as placeable objects, the overall presentation of the graphics must be considered. The following paragraphs contain guidance for preparing print-ready graphics.

Fonts—A sans serif font (Helvetica or Arial) is recommended for Macintosh or Windows platform. Generally, the smallest font size is 9 point type for body text, legends, and numerals; 10 point type for x- and y-axis labels and secondary headings; and 11 point for other titles and headings. If the artwork is to be reduced for placement, the type sizes should be proportionally larger than the final, so they will be readable when reduced.

Lines—Linework used for drawing boxes in graphs, borders, or sine curves should not exceed 1 point maximum width. Linework for dashed lines showing limits of bars on charts should not exceed 0.5 point, but not less than 0.3 point. In general, line weights used within figures will be 0.3, 0.5, or 1 point. As with font size, these line widths refer to the finished line width after the final artwork is reduced.

Grayscale and Color Palettes for Graphic Legends

When using fill values in legend blocks, limit the numbers of grayscale values to a maximum of five. The suggested percentages of black for fill are: (1) 10 to 15 percent, (2) 25 percent, (3) 40 percent, (4) 50 percent, and (5) 100 percent. The number of values allowable depends largely on whether the reader can distinguish among them. If additional values are needed for a one-color publication, use cross hatching, stripes, dots, or other patterns.

When choosing fill values for a duotone (two-color) publication, the number of values can be doubled, since there are two colors to work with. However, the values used will largely depend on readability.

When selecting a color palette for four-color process publications, readability and aesthetics have nearly equal importance. The color values used on maps and other figures should not jump off the page or scream at the reader. The values should “tell a story” while not distracting the reader, as bright colors often do. It is best to use “complementary” colors rather than “opposite” colors on the color wheel. Consistency of color choice throughout the manuscript creates a pleasing and professional look.

Photography

Photographs submitted for publication must be in sharp focus with clear, well-lit imagery. If photographs are to be printed in one color, black-and-white glossy prints provide the best image quality. The film speed should be equal to 125 ISO or less. Recommended speed is 50 to 60 ISO. Color prints can be converted to one color, but detail may be lost.

For publications printed in full color, the best quality can be attained with 35mm color slides (transparencies) or larger format transparencies. The film speed should be equal to 100 ISO or less. Recommended speed is 50 to 60 ISO. The lower speed will help assure that no “grain” will be visible in the final printing.

The detail required in scientific publications is lost when blurred, washed out, or too light or too dark prints are used. If indoor photography is required to illustrate processes or systems, use photoflood lights on stands to adequately light the subject, as well as a tripod to stabilize the camera. This may require hiring (contracting) a professional indoor photographer for the best images for your publication.

Always choose slide or print film over digital photography whenever possible. The quality of your photos will be superior. When using a digital camera, rely on the megapixel rating, not necessarily a brand name. Use the highest megapixel camera you can. If you must use a digital camera make sure that the rating is at least 2.0 megapixels, although 3.0 megapixels or greater is preferred. A 4.0 MP digital camera will provide very clear photos when printed on 5- by 7-inch photo paper.

When using a digital camera, make sure the highest possible image quality is set on the camera, with its accompanying large file size. Many digital cameras place images on SmartMedia™ cards, CompactFlash™ cards, and other small storage media. Make sure you have enough cards for your project and transfer the

images to your PC as soon as you return to the office. View every image for highest quality and delete the images that do not meet your quality standards. Place the selected images on CD or other safe storage media as a backup.

Remember, the quality of the photograph will only be as good as the film or the digital rating of your camera, and a photo that is too light cannot be saturated with an image that does not exist. A photo that is slightly dark is better than nothing, but one that is very dark will lose all detail of your image and is not usable.

When emailing digital photos or low-resolution scans, send the original images without retouching or resizing. Low-resolution images will be used for placement only.

Writers Aid Shelf

The following references contain useful guidance for most technical manuscripts:

American National Standards Institute. 1977. American national standard for bibliographic references. ANSI Z39.29. New York. 92 p.

Style Manual Committee, Council of Biology Editors. 1994. Scientific style and format: the CBE manual for authors, editors, and publishers. 6th ed. New York: Cambridge University Press. 825 p.

Day, Robert A. 1988. How to write and publish a scientific paper. 5th ed. Philadelphia: ISI [Institute for Scientific information] Press. 160 p.

Little, Elbert L., Jr. 1979. Checklist of United States trees (native and naturalized). Agric. Handb. 541. Washington, DC: U.S. Department of Agriculture. 375 p.

Siedman, Eileen, ed. 1979. The right word: guidelines for avoiding sex-biased language. Washington, DC: American Society for Public Administration. 8 p.

U.S. Government Printing Office. 2000. Style manual. Washington, DC. 326 p. <http://www.access.gpo.gov/styleman/2000/browse-sm-00.html>

Other books to help authors:

American Chemical Society. 1974. Bibliographic guide for authors and editors. Washington, DC. 362 p.

Baker, Sheridan. 1997. The practical stylist with readings and handbook. 8th ed. [Place of publication unknown]: Longman. 540 p.

Fowler, H.W. (revised and edited by Sir Ernest Gowers). 1983. A dictionary of modern English usage. 2^d ed. New York: Oxford University Press. 725 p.

Gowers, E.; Fraser, B. 1973. The complete plain words. 2^d ed. London: Her Majesty's Stationery Office. 241 p.

Dell Publishing Company. 2001. The American heritage dictionary. 4th ed. [Place of publication unknown]. 960 p.

O'Connor, M. 1979. The scientist as editor: guidelines for editors of books and journals. New York: John Wiley. 218 p.

Strunk, William Jr.; White, E.B. 1979. The elements of style. 3rd ed. [New York]: McMillan. 92 p.

Chicago Editorial Staff. 1993. The Chicago manual of style. 14th ed., rev. Chicago: The University of Chicago Press. 923 p. <http://www.press.uchicago.edu/Misc/Chicago/cmosfaq/>

Web references (used by Production):

Dictionary of units of measurement: <http://www.unc.edu/~rowlett/units/>

Ecosystem provinces: http://www.fs.fed.us/colorimagemap/ecoreg1_provinces.html

Federal Register: http://www.access.gpo.gov/su_docs/aces/aces140.html#frbrowse

Forestry terminology and glossaries: <http://forestry.miningco.com/cs/glossary/>

Invasive and exotic species of North America: <http://www.invasive.org/>

Library of Congress: <http://www.loc.gov/>

Plants database: <http://plants.usda.gov/>

science.gov: <http://science.gov/>

Silvics of North America: http://www.na.fs.fed.us/spfo/pubs/silvics_manual/table_of_contents.htm

Southeast exotic pest plant council: <http://www.exoticpestplantcouncil.org/fslist.cfm>

Tree species distribution maps for North America: <http://climchange.cr.usgs.gov/data/atlas/little/>

Appendix A—Samples of Tabulations, Tables, and Figures

Tabulation

A sample tabulation showing data presented in the text with at least two columns, but not more than five. It is usually preceded by a sentence (ending in a colon) explaining the tabulation. The tabulation is keyed exactly like a table but without the top and bottom rules found in a table. The headings are boldfaced so that they will stand out from surrounding text.

The following tabulation shows a range of study data:

Stratum	Sample characteristics		
	Stand age <i>years</i>	Area cut <i>acres</i>	Net wood residue volume <i>cubic feet per acre</i>
Public	200 – 450	17 – 142	1,328 – 3,803
Private	200 – 500	11 – 100	2,304 – 5,248

No top or bottom rules

Note: Refer to table conventions shown in tables 1 and 2 for formatting.

Data Table

A sample table showing the number, title, three horizontal rules (minimum), column headings, stub column, English units of measure, field spanner, column entries, subtotal, and total. Column entries show stub column with runover (2-space indent); text column with runover (2-space indent); decimal data columns with rule line, subtotal, and total; whole-number data column with rule line, subtotal, and total; data column of decimals and whole numbers in a range; data column of text, whole numbers, and decimals; and data column of text, whole numbers, and decimals in a range.

Table 1—Sample of SRS data table (dummy data)

Species	Life zone	Center headings over data columns		Height		
		Area <i>acres</i>	Age <i>yrs.</i>	Actual	Median	Mean
Hardwood						
Big-leaf mahogany	Tropical dry and moist	0.20	16	00.1 – 112.5	7 million fibers	Trace – .32
	Tropical moist	31.12	7	1,000,000 – 0.01	None	18.4 – 550
	Premontane rain	—	—	155	1.3	0.1 > 38.5
	Tropical dry	100.05	50	> 60	.004	Average daily
	Total	131.37	73			
Total species		131.37	73			
= not applicable.						

Flush left
 Leaders
 Field spanner
 Units of measure
 Subtotal line
 Total rule
 Data columns
 Stub column
 Added for illustrative purposes only
 Final total line is flush left

Data Table with Metric Units

A sample table showing metric and English units of measure, explanatory notes, footnotes, source notes, and text column with runover not indented and using a 1/2 blank line between row entries.

Table 2—Sample SRS data table with metric units (dummy data)

Forest type	Land area		Range	Location
	<i>km²</i>	%	<i>hours</i>	
Orey ^a	450	1.3	1,050	Streams and rivers in Wyoming and Montana
Orey + other species	170	0.5	300	
Cativo ^b	300	0.8	—	
Cativo + other species	195	0.5	0.03	Newfoundland, Canada
Mixed forests	17 880	50.4	—	
Mangroves	1 760	5.0	100	NG
Protection forests	14 740	41.5	3	NR
Total	35 497	100.0		

— = not applicable; NG = not given; NR = no reports found.

^a *Camonosperma panamensis*.

^b *Priora copaifera*.

Source: Harcourt and Sayer (1996), INRENARE (1990).

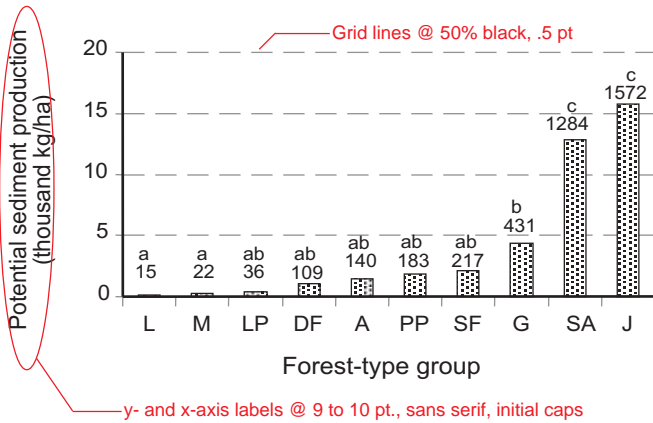
Unlettered notes go above footnotes

Source notes go below footnotes

Total lines without occurrence of subtotal is indented 5 spaces

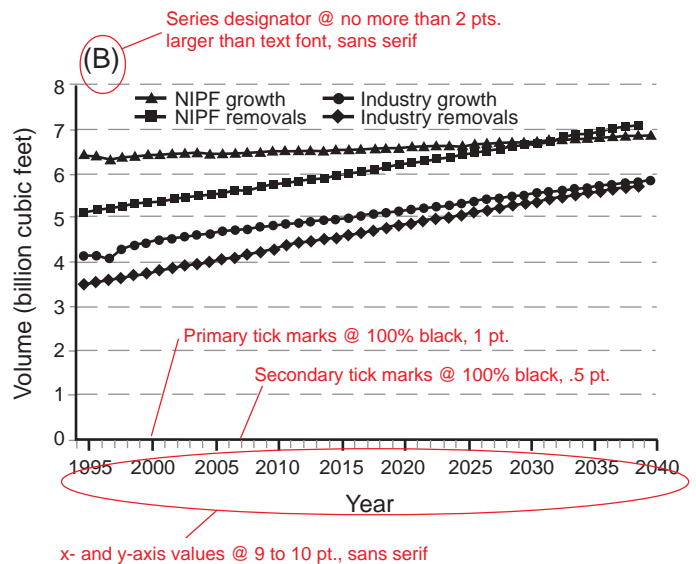
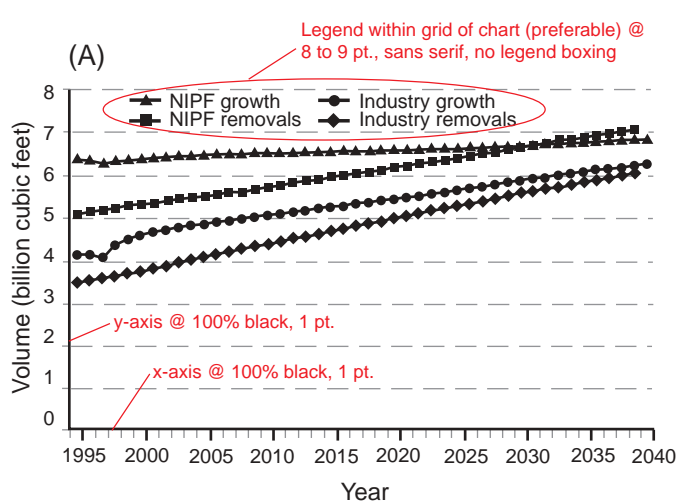
Bar Chart

A sample of a simple bar chart showing an x-axis label for metric units of measure (always in parentheses) and grid lines. The y-axis label is center aligned and the values are right aligned. The x-axis values have abbreviations for data bars and are center aligned. These abbreviations are listed with the explanation in the figure caption along with any other explanatory information for the figure. Cited information is also listed in the figure caption, for example, *J* = *juniper* (Buckhouse and Gaither 1982). Use the same hatch-mark pattern or shading for all bars from the same data set.



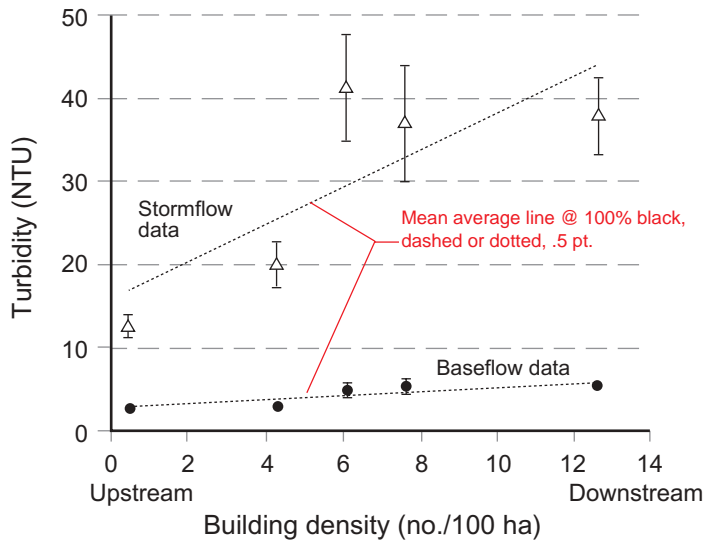
Multiple Line Charts in Series

A sample of multiple line charts in a series showing (A) and (B) data information, legends within a chart with no boxing, y-axes labels for English units of measure are center aligned, x-axes labels are center aligned, and primary and secondary tick marks. Legends provide an index to the data items, symbols, line types, or fill patterns in a chart. They are listed in order of occurrence on this chart series (should always be listed in order). They can be placed at the top or within the chart body if the chart does not fill the entire space; and can be placed side-by-side (as shown here) or stacked. Tick marks define the data intervals described by the labels. Tick marks are usually placed outside the body of the chart; last one on an axis should be labeled; not every one needs a label; and marks should be in meaningful increments for the data being presented.



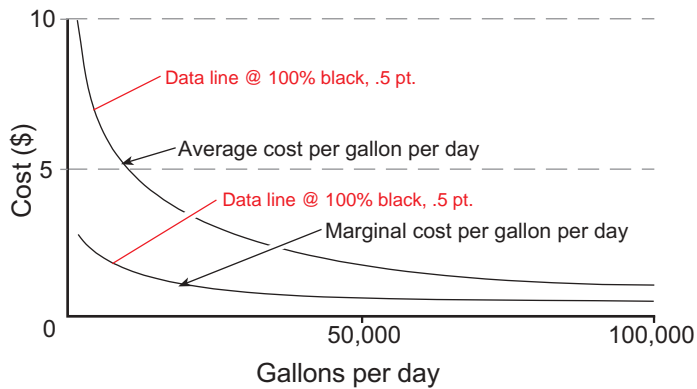
Scatter Chart

A sample of a scatter chart showing mean and standard error bars, grid lines, and x- and y-axis labels. Do not use top and right side lines unless they are needed to define the area in the chart (as in an area fill chart).



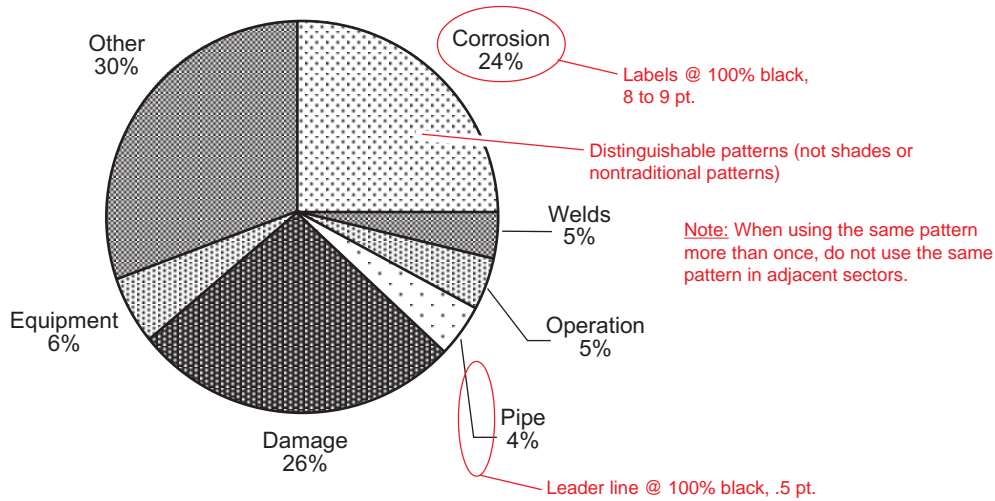
Line or Sine Curve Chart

A sample of a simple line or sine curve chart showing x- and y-axis labels for English units of measure, grid lines, and use of arrows to identify the data lines.



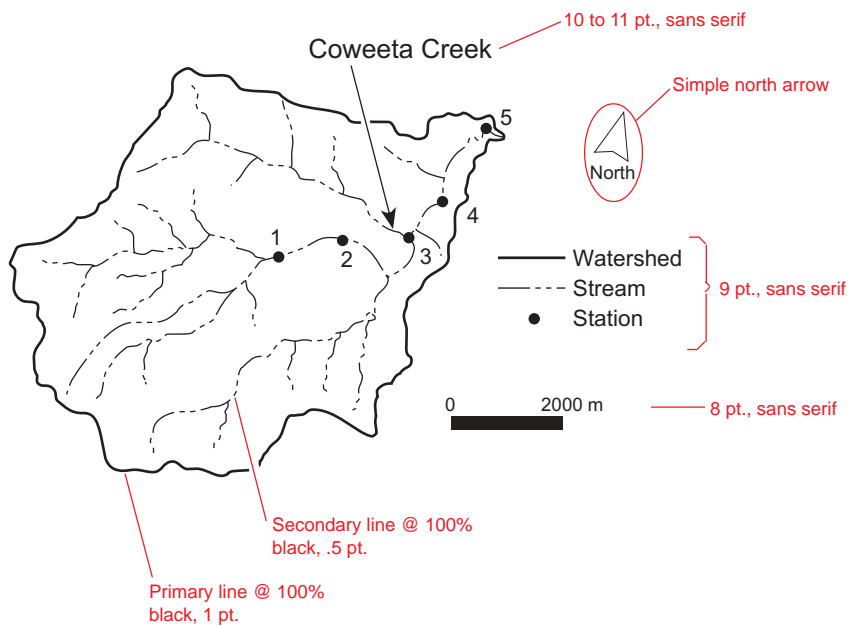
Pie Chart

A sample of a pie chart showing labels with leader lines and use of distinguishable patterns.



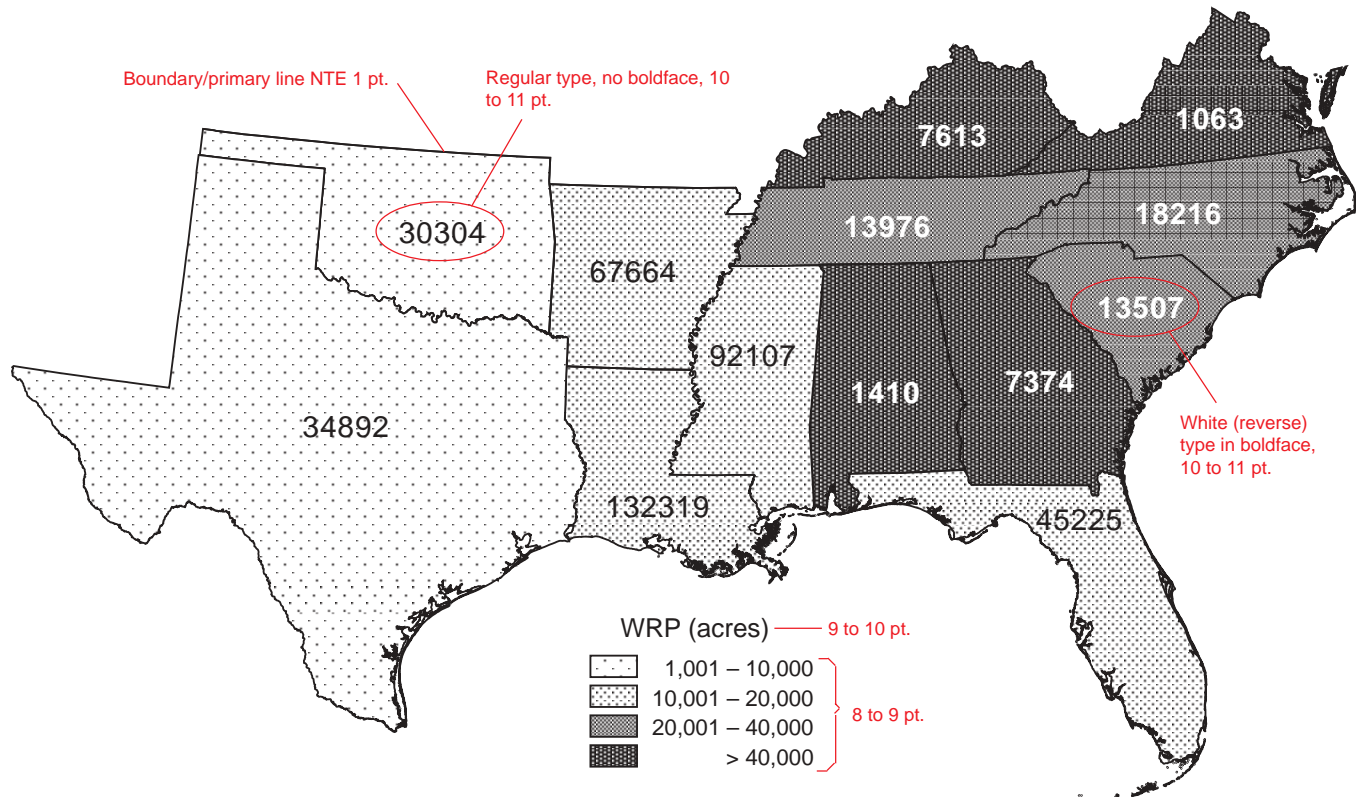
Line Art Map

A sample of a simple line art map showing a directional arrow, legend outside the map body in hierarchical order, and a distance scale (bar scale preferred). The distance scale can be in English or metric units of measure.



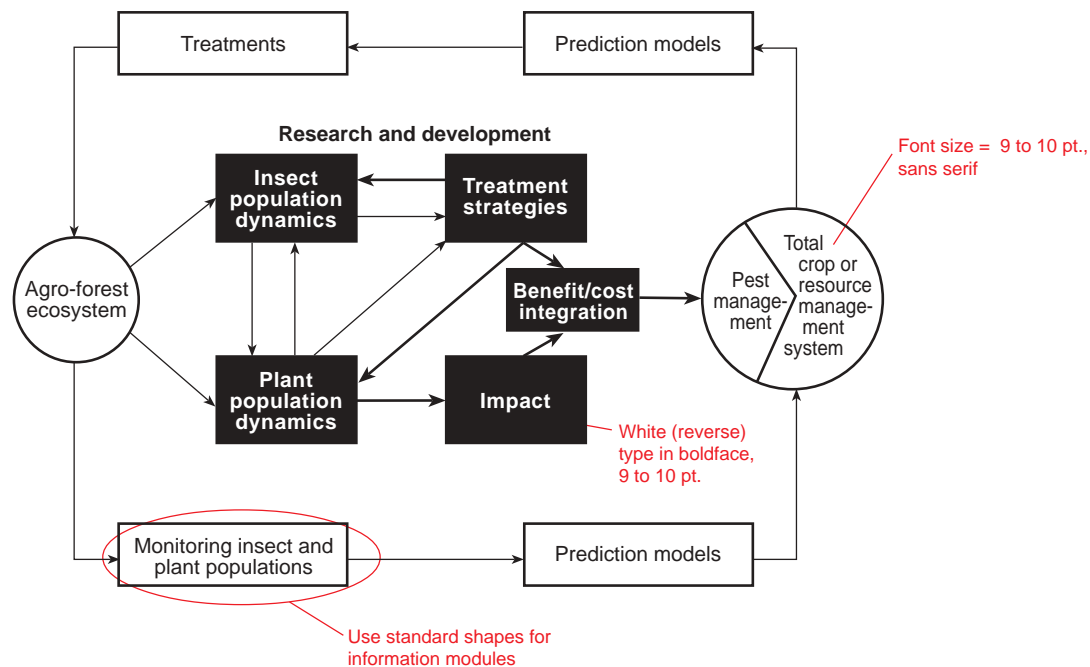
Simple Regional Map

A sample of a simple regional map showing boundary (primary) lines; only white (reverse) type in boldface, all other text in regular sans serif; and legend with title outside the map body. The legend has different fill patterns for ranges of data (range data are center aligned on symbols). There is no directional arrow and distance scale on this map. No scale exists and the north direction is logical; therefore, the arrow and scale may be omitted.



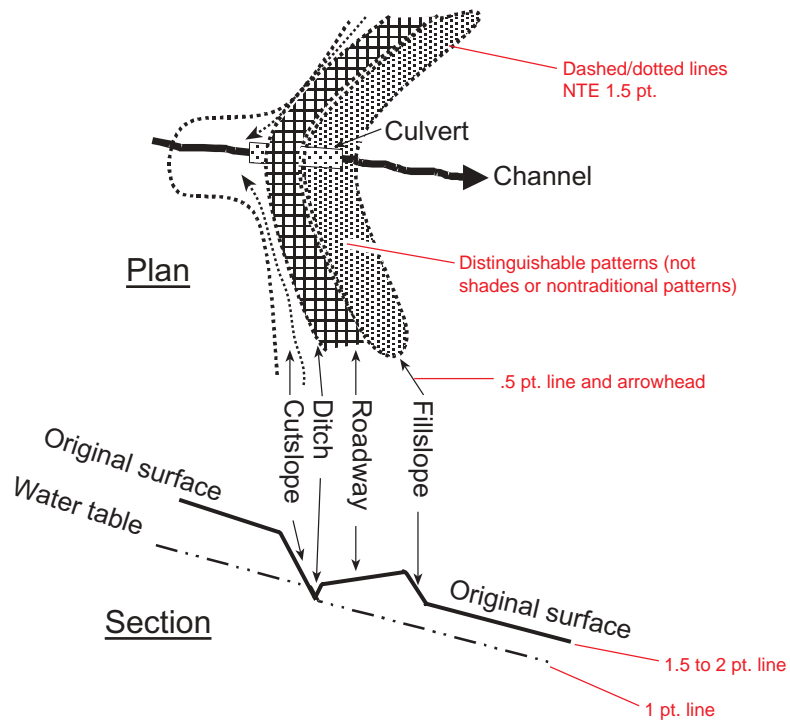
Flow Chart

A sample of a simple flow chart showing white (reverse) type in boldface, all other text in regular sans serif, initial caps, and use of standard shapes for information.



Simple Illustration

A sample of a simple illustration showing two distinct pieces, use of dashed and dotted lines, distinguishable patterns, and use of arrowheads.



Appendix B—Tips for Writing

General

The FSM (1630) and FSH 1609.11 tell us what rules to follow in citing references, what series to use for various kinds of SRS papers, what books are authorities for tree names, and so on. The GPO Style Manual is our principal authority for spelling, compounding, capitalization, punctuation, and abbreviations. We follow ANSI Z39.29-1977 (see following reference list), as interpreted by the FS, for literature citations and references. These manuals, plus the authorities they specify, do not cover every question of usage and style, so we use many other books for guidance.

This section summarizes advice from style manuals on science writing. Writers wanting more help should refer to style manuals such as those listed earlier.

- Do not use sex-specific language in publications. Nouns and pronouns referring to males have the effect of excluding women from participation in activities that should be equally accessible to both sexes.
- Complete all sections in the manuscript before submitting for editing. Do not underline or use dashes to indicate places where data or text must be added later. There is no “later.”
- Write concisely. This does not mean your papers must always be short, only that they contain no unnecessary words. Avoid such padding as *It is interesting to note that* and *In view of the fact that*.
- Write simply. Complex subjects do not need to be oversimplified, but unnecessary complexity should be avoided. Prefer the simple, everyday word to the polysyllable, the concrete to the abstract.
- Write precisely. Use words as defined by a standard usage dictionary. Remember that English may not be the first language of your reader.
- Spell words in foreign languages correctly. Words are misspelled if diacritical marks are missing or the capitalization rules of the language have not been followed.
- Do not give information more than once. Do not repeat in the text what is given in charts or tables without additional analysis.
- Use active voice and first person, where appropriate, because they require fewer words and have more power than passive voice does.
- Do not overuse acronyms. More than one or two on a page are too many. Limit your use of acronyms to terms that have many words and that appear often throughout your paper.
- Distinguish clearly between what you know and what you surmise, between what is supported by data and what is speculative. *Perhaps these results may be considered a possible basis for* is more hedging than necessary.
- Use the spell checker on your computer, but recognize that it will not identify correctly spelled but inappropriate words. Beware of commonly misused words such as *there* for *their*, *it's* for *its*, and *lead* (the metal) for *led* (when the past tense of the verb to lead is meant).
- Avoid verbs disguised as nouns—words ending in *-ion*, *-ment*, *-ism*, and *-ance*. Instead of *We will begin implementation, summarization, and refinement...* write *We will implement, summarize, and refine....*
- *Since* in the sense of *because* and *while* in the sense of *although* have respectable histories in English, but many style manuals urge that their use be restricted to instances when a strong element of time is expressed.
- Use *which* and *that* correctly. *Which* is nonrestrictive, nondefining; the clause beginning with *which* merely adds information; example: *The plot, which was covered with ash, is on Mount Hood.* *That* is restrictive; the clause is necessary to the definition; example: *The plot that was covered with ash is on Mount Hood.*
- Avoid abbreviations in the text. Do not abbreviate units of time (day, week, month, year). If a complex term is used repeatedly and the abbreviation would simplify reading, spell out the term at the first mention, then abbreviate; example, *red-cockaded woodpecker (RCW)*. When the acronym is better known than the written-out version, use it first; example: *DNA (deoxyribonucleic acid)*.
- Identify your audience and select appropriate language. If it is a small group of experts in a narrow discipline, you can use words peculiar to that discipline. If you want to reach a broader audience, avoid jargon. If an unusual usage or specialized term is unavoidable, include its definition.

- Repetition can make dull reading, but a word introduced simply to provide variety may be confusing. If you start with a term like *plots* and then switch to *experimental locations* or *sampling sites*, the reader may wonder if you mean just one kind of area—or three.
- Reserve the term *and/or* for legal documents; it does not belong in scientific writing. Correct: ***Small or large sawtimber, or both, are available.*** Incorrect: ***Small and/or large sawtimber are available.***
- Nouns can modify other nouns, but how long strings of nouns relate to each other may not be clear. ***Bee trap*** clearly means a trap for bees, but ***Bee Trap*** clearly means a trap of bees, but ***Bee Trap Evaluation Progress Report*** is confusing and can have several meanings.
- Dangling constructions are another pitfall. They frequently appear in sentences in passive voice because the real subject of the action is not stated. The action may seem to be performed by an improbable agent as in ***swinging through the trees, the scientist found two species of monkeys.***
- For expressing a range of values, use the word *to* and not a hyphen. Examples: ***The dogwood anthracnose study continued for 6 to 8 years. The ovens were set for 2 to 18 °C. Only 6 to 10 percent of the population had blue eyes.***
- Verb tense is important because it reflects scientific tradition. Published material is part of the body of knowledge and thereafter is referred to in the present tense, although the attribute is usually in the past tense; example: ***Daterman (1978) showed that pheromone inhibits infestations.*** When reporting results for the first time, use the past tense. In your manuscript, you will go back and forth between the tenses, such as when referring to information in a table or figure in an as-yet unpublished manuscript; example: ***Table 2 shows that pileated woodpeckers inhabited 10 percent of the trees.*** The abstract is mostly in past tense because it is about your new work. The introduction is mostly in present tense because you usually are bringing the reader up to date on what is already known. The materials, methods, and results section is mostly in past tense because you are talking about what you did and what you found. The discussion section is probably a combination of past and present tense.

Wordy terms to avoid

Wordy	Better	Wordy	Better
accomplish	do	in the absence of	without
accounted for by the fact	because	in the event of	if
a majority of	most	in the vicinity of	near
a number of	a few, many, several	in view of	because
all of the same opinion	agree	is defined as	is
approximately	about	it is apparent that	apparently
as a consequence of	because	it is believed that	I think
at this point in time	now	it is clear that	clearly
based on the fact that	because	it is doubtful that	possibly
by means of	by, with	it is evident that a produced b	a produced b
combine into one	combine	it is important to note that	(delete these words)
demonstrate	show	it is reported by Smith	Smith reports
despite the fact that	although	it is suggested that	I think
due to the fact that	because	lacked the ability to	could not
end result	result	large in size	big, large
fabricate	make	make an adjustment	adjust
few in number	few	methodology	methods
filled to capacity	filled	modification	change
finalize	end	needless to say	(avoid the phrase and what follows)
following	after	of considerable magnitude	big, great, large
for the purpose of	for, to	on a daily basis	daily
for the reason that	because	on behalf of	for
from the standpoint of	for	on the basis of	by
greater number of	more	on the order of	about
greater number of times	more frequently, more often	perform	do
great majority of	most	personal opinion	opinion
heat up	heat	print out	print
hypothesize	suggest	prior to	before
if at all possible	if possible	referred to as	called
in addition to	besides	revise downward	lower
in all cases	always	subsequent to	after
in a number of cases	many, some	sufficient	enough
in case	if	terminate	end
in close proximity	near	the question as to whether	whether
in consideration of the fact that	because	there is reason to believe	I think
in few cases	rarely, seldom	through the use of	by, with
initiate	begin, start	ultimate	last
in many cases	often	unusual normalities	rarities
in most cases	usually	utilize	use
in order to	to	we wish to thank	we thank
in relation to	to, toward	with reference to	about (or leave out)
in respect to	about	with regard to	about, concerning (or leave out)
in some cases	sometimes	with respect to	about
in terms of	about, as, for	with the possible exception of	except

Appendix C—Sample Citations for Most Publication Types

Directory

The USDA FS style for citing bibliographic references is based on ANSI (American National Standards Institute. 1977. American national standard for bibliographic references. ANSI Z39.29. New York. 92 p.). To simplify, condense, and illustrate the rules outlined in ANSI, we show examples of the most common types of citations used in SRS publications. The examples also account for USDA FS requirements. Some examples are not real but have been created for this guide. If you have an unusual paper that you are not sure how to cite, ask an editor for assistance.

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Refer to literature in the text by author-year. In the author-year method, the author's last name and the year of publication are cited:

. . . may result in increased peak flows (Brown 1980).

Later experiments by Miller (1981) showed . . .

When listing more than one reference as support for a statement, give the references alphabetically by senior author. When a work has three or more authors, all authors are named. For a work by four authors, all four are named because it makes no sense to drop the fourth name only to add the notation *[and others]*. Do not punctuate between the author's name and the year except when the year must be given as *in press*.

(Adams 1980; Endres and Thompson, in press; Petersen 1974)

(Adams 1980, Endres and Thompson 1988, Petersen 1988)

(Barnes and Clark, no date)

(Jones 1980, 1981)

(Jones 1980, 1981, 1993a; Jones and others 1971; Miles and Anderson 1979)

[Pan and others 1996, in press; Parton 1996; Ryan and others in press (a), in press (b)]

(Remington 1982a, 1982b)

(Vose and Swank 1993, Vose and others 1995)

Alphabetizing

List entries alphabetically by author in the Literature Cited or References section.

Brown, A.T.

Brown, J.S.

Campbell, R.K.

Campbell, R.K.; Echols, R.W.

Crossley, D.A., Jr.

Gansner, D.

Gansner, D.A.

Stout, B.M., III

List a single-author entry before a multiple-author entry beginning with the same name:

Mason, P.

Mason, P.; Street, D.; Drake, P.

For several entries by the same senior author with different coauthors, alphabetize by the last names of the junior authors:

Brown, G.W.; Gahler, A.R.; Marston, R.B.

Brown, G.W.; Krygier, J.T.

When the author or authors of several entries are the same, arrange the citations chronologically:

Rickard, W.H. 1967.

Rickard, W.H. 1970.

Rickard, W.H. 1985.

When the author or authors and the year are identical for two or more entries, add a lowercase letter to the year and use the first word of the title to arrange the citations (but ignore *a*, *an*, and *the* when alphabetizing):

Hall, F.C. 1979a. The ecology of....

Hall, F.C. 1979b. Silvicultural options....

Entries by different senior authors with the same last name and same year also require lowercase letters after the year, even though they might be separated by several citations. In the following example, the first and last entries would be cited in the text as **Johnson 1978**; a lowercase letter distinguishes which Johnson publication is being cited:

Johnson, A.C. 1978a.

Johnson, A.C. 1979.

Johnson, M.A. 1973.

Johnson, W.C. 1978b.

Entries by the same senior author with the same year but two or more coauthors with different surnames also require lowercase letters after the year. In the following example, each entry would appear as **Miller and others (1975)** in the text; the letters distinguish which publication is being cited:

Miller, J.A.; Anderson, A.B.; Franks, M.B. 1975a....

Miller, J.A.; Franks, M.B.; Williams, A. 1975b....

Miller, R.A.; Smith, W.A.; Mitchell, S. J. 1975c.

Entries that begin with a year are listed first:

1998 Lockwood-Post's Directory. 1998. Pulp and paper mills in the United States. 1998 Lockwood-Post's Directory of the Pulp, Paper and Allied Trades: 38-140.

Paper Industry Management Association. 1999. Papermaker's top 50: muddling through. PIMA's North American Papermaker. 81(6): 58-73.

Book or Monograph

- Abercrombie, M.; Hickman, C.J.; Johnson, M.L. 1964. A dictionary of biology. Chicago: Aldine Publishing Co. 798 p. (1)
- Echternacht, A.C., ed. Biodiversity of the Southeastern United States: lowland terrestrial communities. New York: John Wiley. 502 p. (2)
- Strunk, W.J.; White, E.B. 1971. The elements of style. 2^d ed. New York: Macmillan. 78 p. (3)

The third reference shows an edition number; all references show no State for the publisher's location and shortened name of well-known publishers. (No states are used for major cities.)

Chapter in Book or Monograph

- Beasley, R.S. 1979. Assessment of nonpoint source pollution from forest practices in the south central region. In: Current research, research needs and problems in assessing impact of forest management practices on water quality and utility. Tech. Bull. 328. New York: National Council of the Paper Industry for Air and Stream Improvement: 10-13. (4)

The reference cites a section within a monograph; the monograph is in a numbered series. The series name is abbreviated.

- Stoltenberg, C.H.; Ware, K.D.; Marty, R.J. [and others]. 1970. Preparing written study plans. In: Planning research for resource decisions. Ames, IA: Iowa State University Press: 81-88. (5)

The reference has more than four authors.

- Stein, W.I. 1978. Reforestation evaluation. In: Cleary, B.D.; Greaves, R.D.; Hermann, R.K., comps., eds. Regenerating Oregon's forests: a guide for the regeneration forester. Corvallis, OR: Oregon State University Extension Service: 205-221. (6)

Reference shows compilers and editors for the larger work.

When page numbers of the chapter being cited are known, the chapter number is not required. It may be added, however, as a supplemental note:

- Stein, W.I. 1978. Reforestation evaluation. In: Cleary, B.D.; Greaves, R.D.; Hermann, R.K., comps., eds. Regenerating Oregon's forests: a guide for the regeneration forester. Corvallis, OR: Oregon State University Extension Service: 205 221. Chapter 11. (7)

If this book had not been paged, the reference could be written in one of two ways:

- Stein, W.I. 1978. Reforestation evaluation. In: Cleary, B.D.; Greaves, R.D.; Hermann, R.K., comps., eds. Regenerating Oregon's forests: a guide for the regeneration forester. Corvallis, OR: Oregon State University Extension Service: chapter 11. (8)

- Stein, W.I. 1978. Reforestation evaluation. In: Cleary, B.D.; Greaves, R.D.; Hermann, R.K., comps., eds. Regenerating Oregon's forests: a guide for the regeneration forester. Corvallis, OR: Oregon State University Extension Service. [Not paged]. Chapter 11. (9)

Book Review

- Hamel, P.B. 1999. Review of Atlas of the breeding birds of Maryland and the District of Columbia. *Journal of Wildlife Management*. 63: 760-761. (10)

The title of the book being reviewed begins with an uppercased letter.

- Greenberg, C.H. 1999. Stemming the tide of invaders. Review of Strangers in paradise. *Biodiversity Letters*. 4: 152-153. (11)

This book review has a separate title.

All Volumes of Multivolume Work and Article in Specified Volume

- Iverson, L.L.; Iverson, S.D.; Snyder, S.H., eds. 1975. Handbook of psychopharmacology. New York: Plenum Press. 6 vol. (12)

- Colowick, S.P.; Kaplan, N.O. 1955 63. Methods in enzymology. New York: Academic Press. 6 vol. (13)

Both examples above cite all volumes of multivolume works. In the second example, the volumes were published in different years; the range of years is given.

- Zook, L.M. 1980. Lessons learned—not always by choice. In: Technical communication—the bridge of understanding: Proceedings, 27th international technical communication conference. Washington, DC: Society for Technical Communication: W 31 to W 36. Vol. 2. (14)

Cites an article in one volume of a multivolume work. The volume number is given in a supplemental note. The published titles of the article and the proceedings use an em dash. Pagination of the work is unconventional; because a hyphen appears as part of the page number on the original, the word to is used rather than a hyphen to indicate inclusive pages.

Series, Department of Agriculture

Publications in a Department series, such as Agriculture Handbooks, Forest Resource Reports, Miscellaneous Publications, and Technical Bulletins, show on the cover the name of the Agency using the series. The Agency, however, is not named as publisher in the reference. The series name is abbreviated.

- Fowells, H.A., comp. 1965. Silvics of forest trees of the United States. Agric. Handb. 271. Washington, DC: U.S. Department of Agriculture. 762 p. (15)

Although the Forest Service, U.S. Department of Agriculture, is the Agency named on the publication, only the Department is shown as the publisher of a Department series. The reference shows the compiler as author.

- Bailey, R.G. 1995. Description of the ecoregions of the United States. 2^d ed., rev. Misc. Publ. 1391. Washington, DC: U.S. Department of Agriculture. 108 p. + map. (16)

- McNab, W.H.; Avers, P.E., comps. Ecological subregions of the United States: section descriptions. Admin. Publ. WO-WSA-5. Washington, DC: U.S. Department of Agriculture, Forest Service. 267 p. (17)

Koch, P. 1972. Utilization of the southern pines. Agric. Handb. 420. Washington, DC: U.S. Department of Agriculture. 2 vol. (18)

Cites a book with more than one volume; the collection is being cited. (If only one volume of a collection were being cited, the volume number would follow Vol.) The collection is in a numbered series.

Series, Forest Service (WO)

U.S. Department of Agriculture, Forest Service. 1981. Report of the Forest Service: fiscal year 1980 highlights. FS 364. Washington, DC: U.S. Department of Agriculture, Forest Service. 38 p. (19)

*Reference shows a corporate author. Repeating the publisher's name is optional. Where different type sizes were used on the publication to set off the last portion of the title (**fiscal year 1980 highlights**), a colon was used in the keyboarded citation.*

Series, Forest Service (Station or Region)

Thompson, M.T.; Johnson, T.G. 1996. A forested tract-size profile of Virginia's NIPF landowners. Res. Pap. SRS-1. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 8 p. (20)

Ince, P. 2000. Industrial wood productivity in the United States, 1900-1998. Res. Note FPL-RN-0272. Madison, WI: U.S. Department of Agriculture, Forest Service, Forest Products Laboratory. 14 p. (21)

Rudis, V. 1988. Nontimber values of Louisiana's timberland. Resour. Bull. SO-132. New Orleans: U.S. Department of Agriculture, Forest Service, Southern Research Station. 27 p. (22)

*The publisher's location is a domestic city that stands alone and the name is shown as **Southern Research Station** on the cover of the publication.*

Jackson, G.H.; Henley, J.W.; Jackson, W.L. 1963. Log diagramming guide for western softwoods. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station. 21 p. (23)

*The publication is in an unnumbered series. The publisher's name is shown as **Pacific Northwest Forest and Range Experiment Station** on the cover of the publication.*

Levitan, J.S. 1969. Lumber and veneer recovery from Douglas fir trees in California. San Francisco: U.S. Department of Agriculture, Forest Service, Pacific Southwest Region. 56 p. (24)

*Names of regional offices should be given rather than numbers (R-5). If the cover of the publication shows only the number, however, use the number in the citation but supply the name in brackets: . . . **Forest Service, R-5 [Pacific Southwest Region]**.*

When a publication is revised and reissued, identify the revision or edition number after the title. You may abbreviate the words *revised* and *edition*. The following three examples illustrate different styles used in publications to indicate revised status.

Martignoni, M.E.; Iwai, P.J. 1977. A catalog of viral diseases of insects and mites. 2^d ed. Gen. Tech. Rep. PNW 40. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station. 28 p. (25)

Martignoni, M.E.; Iwai, P.J. 1986. A catalog of viral diseases of insects, mites, and ticks. 4th ed., rev. Gen. Tech. Rep. PNW 195. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 50 p. (26)

U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 1987. FIR program: reforestation research and application in southwestern Oregon [Brochure]. Revised. Portland, OR. [Not paged]. In cooperation with: Oregon State University. (27)

The publisher is named as author; therefore, the publisher's name is not repeated as the publisher. The document cited is a brochure, is not paged, and the cooperating agency is named.

Series of Another Government Agency, University, or Organization

The series must also meet the ANSI definition of a monograph.

Ursic, S.J. 1979. Sediment contributions from southern forest management practices. In: Pollution control in the forest products industry. Semin. Publ. 625/3 79 010. Cincinnati, OH: U.S. Environmental Protection Agency, Office of Technology Transfer: 53-55. (28)

Reference shows an article within a larger work.

Brochure and Leaflet

The physical format of a brochure or leaflet is different from that of a technical publication. Usually a brochure or leaflet is a foldout with unnumbered pages and, when folded, may be larger or smaller than standard. A brochure is roughly the standard 8 1/2 by 11 inches, and a leaflet is smaller (usually narrower) than standard. Because the physical format of such publications is different, a medium designator is given in brackets at the end of the title.

U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 1987. FIR program: reforestation research and application in southwestern Oregon [Brochure]. Revised. Portland, OR. [Not paged]. In cooperation with: Oregon State University. (29)

*The organization named as author is not repeated as the publisher. The word **revised** indicates an earlier version was published. The cooperating organization is named.*

Holsten, E.H.; Werner, R.A. [1987]. Engriaver beetles in Alaska forests [Leaflet]. (30)
[Portland, OR]: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. [Not paged].

The publication date does not appear on the leaflet. The writer knows the date, however, and supplies it in brackets. The publisher's location is not given on the leaflet, is supplied in brackets.

Journal or Periodical Article

Spell out names of journals and put a period after the name. Show the title of the article as given on the publication.

- Gavin, D.G.; Peart, D.R. 1993. Effect of beech bark disease on the growth of American beech (*Fagus granifolia*). Canadian Journal of Forest Research. 23: 1566-1575. (31)

The title of the journal article includes a scientific name, that is italicized.

- Adams, L. 1947. Food habits of three common Oregon birds in relationship to reforestation. Journal of Wildlife Management. 11(3): 281-282. (32)

For journals that have issue numbers, show the number in parentheses.

- Conner [Connor], R.N. 1979. Minimum standards and forest wildlife management. Wildlife Society Bulletin. 7: 293-296. (33)

The author's name is misspelled on the publication. The corrected name cannot be shown first because the name given on the publication will be the one used in library records and bibliographic databases. The journal uses only a volume number.

Some journals do not use either volume or issue numbers. The month of the issue must then be substituted.

- Bergstrom, D. 1981. Understanding the habitat needs of anadromous salmonids. Forestry Research West. March: 1-6. (34)

- Harding, J.S.; Benfield, E.F.; Bolstad, P.V. [and others]. 1998. Stream biodiversity: the ghost of land use past. Proceedings of the National Academy of Sciences of the United States of America. 95: 14,843-14,847. (35)

A comma is used in the page number sequence when there are more than four digits.

When citing an article in a journal that is not widely known, including the publisher's name is helpful. Copies of the journal show the publisher as the U.S. Department of Agriculture, Forest Service. If the writer knows that Rocky Mountain Station is the Forest Service unit publishing the journal, the citation reads:

- Bergstrom, D. 1981. Understanding the habitat needs of anadromous salmonids. Forestry Research West. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, [Rocky Mountain Forest and Range Experiment Station]; March: 1-6. (36)

*The comma appears after **Forest Service** because normal ANSI punctuation is followed when information is supplied. A semicolon appears after the publisher's name.*

If a journal uses only an annual volume number, the date of issue also might be needed for clarity as in the following example, which also shows the publisher and supplied page numbers for the article.

- Leckenby, D.A. 1980. Oregon elk habitat study. Pixel facts. Moffett Field, CA: National Aeronautics and Space Administration, Ames Research Center; April; 24: [2-4]. (37)

Publisher of Journal Shown

The publisher of a journal article usually is not shown; if the journal is not widely known, however, naming the publisher might be helpful to the reader. If given, the publisher's location and name precede the volume and issue numbers.

Harrington, C.A.; McElroy, J.P.; DeBell, D.S. 1981. Red alder. Western wildlands. Missoula, MT: Montana Forestry and Conservation Experiment Station, University of Montana; 7(1): 19-21. (38)

Renkin, B.A. 1979. Ethics and publication: the journal as mentor. CBE views. Washington, DC: Council of Biology Editors; 2(4): 2-7. (39)

Article in Monograph Published as Supplement to Journal Issue

Forsman, E.D.; Meslow, E.C.; Wight, H.M. 1984. Distribution and biology of the spotted owl in Oregon. Wildl. Monogr. 87. Washington, DC: The Wildlife Society. 64 p. Supplement to Journal of Wildlife Management. 48(2): 1984 April. (40)

The monograph name is abbreviated; journal name and volume and issue numbers are also cited, followed by the year and month.

Article in Proceedings Published in Journal

Bull, E.L. 1981. Indirect estimates of abundance of birds. Estimating numbers of terrestrial birds: Proceedings, international symposium. In: Studies in avian biology. Cooper Ornithological Society. 6: 76-80. (41)

The proceedings has a title; the publisher of the journal is shown.

Legal Document

The style for citing legal documents is based on convention of the legal profession, the U.S. Code, and ANSI. If you must cite a document not included here, use these references as a guide and do the best you can.

Forest and Rangeland Renewable Resources Planning Act. Act of Aug. 17, 1974. 88 Stat. 476, as amended; 16 U.S.C. 1600-1614. (42)

U.S. Laws, Statutes, etc.; Public Law 9 2743. Federal Land Policy and Management Act of 1976. Act of Oct. 21, 1976. 43 U.S.C. 1701 (note). (43)

U.S. Laws, Statutes, etc.; Public Law 91 190. [S. 1075], National Environmental Policy Act of 1969. Act of Jan. 1, 1970. [An act to establish a national policy for the environment, to provide for the establishment of a Council of Environmental Quality, and for other purposes.] In its: United States statutes at large, 1969. 42 U.S.C. sec. 4231, et seq. (1970). Washington, DC: U.S. Government Printing Office: 852-856. Vol. 83. (44)

U.S. Laws, Statutes, etc.; Public Law 94 588. National Forest Management Act of 1976. Act of Oct. 22, 1976. 16 U.S.C. 1600 (1976). (45)

Proceedings

Citations for proceedings or articles in proceedings include the number of the meeting, for example, **11th spring symposium of the Florida section of the Society of American Foresters; 1979 Mississippi water resources conference**. For lack of a better name, this information is called the proceedings identifier. The precise form the identifier takes depends on whether the proceedings has a formal title, what information appears on the publication, and how the information is shown. The name of the meeting sometimes appears on the cover or title page as the title of the proceedings or just as information for the reader. Often, however, the information appears in small print elsewhere in the document. Because the identifier is not part of the formal title, Roman numerals and ordinals are converted to Arabic. The following examples illustrate forms the identifier may take and the correct punctuation and capitalization.

- Dendy, F.E.; Ursic, S.J.; Bowie, A.J. 1979. Sediment sources and yields from upland watersheds in north Mississippi. In: Proceedings of the 1979 Mississippi water resources conference. Jackson, MS: Mississippi State College Press: 49-54. (46)

The article is in a proceedings without a title.

- Ursic, S.J. 1979. Forestry practices and the water resource of the upper Coastal Plain. In: Florida's water resources—implications for forest management: 11th spring symposium of the Florida section of the Society of American Foresters. Gainesville, FL: University of Florida Press: 83-91. (47)

The article is in a proceedings with a title.

- Brooks, D.J. 1987. Issues in trade modeling: aggregation of products. In: Cardellichio, P.A.; Adams, D.M.; Haynes, R.W., eds. Forest sector and trade models: theory and applications: Proceedings of an international symposium. Seattle: Center for International Trade in Forest Products, University of Washington, College of Forest Resources: 111-120. (48)

The formal titles of both the article and the proceedings contain a colon; the first word after that colon is not capitalized unless it is a proper noun. The proceedings identifier, as the subtitle, does begin with a capital letter. Identity of the publisher and the organization levels responsible for the publication is written in the sequence shown on the publication.

- Martin, R.E.; Robinson, D.D.; Schaeffer, W.H. 1976. Fire in the Pacific Northwest—perspectives and problems. In: Proceedings, 15th annual Tall Timbers fire ecology conference. Tallahassee, FL: Tall Timbers Research Station; 15: 1-23. (49)

The article is in a proceedings that shows an annual issue number on the cover.

- MacLean, C.D. 1981. Walk through inventory: a short cut substitute for remeasuring slow growing inventory plots. In: Arid land resource inventories: developing cost-efficient methods: Proceedings of an international workshop. Gen. Tech. Rep. WO 28. Washington, DC: U.S. Department of Agriculture, Forest Service: 389-393. (50)

The proceedings has a title and is in a numbered series.

- Gutiérrez, R.J.; Carey, A.B., tech. eds. 1985. Ecology and management of the spotted owl in the Pacific Northwest: Proceedings of a symposium. Gen. Tech. Rep. PNW 185. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station. 119 p. (51)

Cites the proceedings, not an article in it. The proceedings identifier, which follows the colon, is not part of the formal title of the proceedings. The diacritical mark has been retained in name of the senior technical editor.

Report

Bryant, M.D. 1968. Transplanting pecan trees. Las Cruces, NM: New Mexico State University Cooperative Extension Service; Plant Sci. Guide 400 H 603. 2 p. (52)

Cites a work that is a report rather than a monograph. (A report usually is a less formal document than a monograph. It generally is neither typeset nor produced commercially; that is, it's photocopied.) The report number is given after the name of the originating organization; for a monograph, it is given after the title. Other bibliographic elements remain in their normal sequence.

Annear, T.C.; Conder, A.L. 1983. Evaluation of instream flow methods for use in Wyoming. Cheyenne, WY: U.S. Department of the Interior; completion report; contract YA 512 CT9 226. 248 p. (53)

***Completion report** is the only report identifier shown on the document; the contract number given on the report is included to help identify it. The originating agency is named as the publisher. The contracting organization is not indicated on the report.*

Agee, J.K.; Pickford, S.G.; Kertis, J. [and others]. 1985. Vegetation and fuel mapping of North Cascades National Park Service complex. [Place of publication unknown]: [Publisher unknown]; final report; NPS contract CS 9000 3 E029. 111 p. Available from: National Park Service Cooperative Park Studies Unit, College of Forest Resources, University of Washington, Seattle, WA. (54)

***Final report** is the only report identifier shown on the document; the contract number given on the report is included to help identify it. The document does not indicate the organization originating the report so a statement on availability is given to help the reader locate the report; the contracting organization, named on the report, is given as that source. The report was written by more than three authors.*

Mercer, D.E.; Pye, J.M.; Prestemon, J.P. [and others]. 2000. Economic effects of catastrophic wildfires: assessing the effectiveness of fuel reduction programs for reducing the economic impacts of catastrophic forest fire events. 68 p. Final report. [Topic 8 of the research grant "Ecological and economic consequences of the 1998 Florida fires," funded by the Joint Fire Science Program]. <http://www.rtp.srs.fs.fed.us/econ/pubs/misc/fl-fire-report2000-lores.pdf>. [Date accessed: February 15, 2001]. (55)

This document is also posted on the Web.

Thesis and Dissertation

Schulz, M.G. 1980. The quantification of soil mass movements and their relationship to bedrock geology in the Bull Run watershed, Multnomah and Clackamas Counties, Oregon. Corvallis, OR: Oregon State University. 170 p. M.S. thesis. (56)

Sampson, D. 1980. End joint tensile strength of 3/4 inch Douglas fir laminated veneer (LVL). Seattle: University of Washington. 88 p. Ph.D. dissertation. (57)

Abstract

Abstracts are considered unpublished works. If you must cite an abstract, indicate the work is not a full-length paper by identifying its physical format in brackets at the end of the title.

Harrington, C.A.; Deal, R.L. 1981. Sitka alder and Douglas fir mixtures look promising (58) [Abstract]. In: Northwest science program and abstracts: 54th annual meeting of the Northwest Scientific Association. [Pullman, WA]: Northwest Scientific Association: 41.

The publisher's location was not given on the original; the information is supplied within brackets.

Available from NTIS

McKillop, W. (Department of Forestry and Resource Management, University of California, Berkeley, CA); Adams, D.; Haynes, R.; Geissler, P. [N.d.]. Social, economic and environmental effects of rising timber prices. 59 p. Available from: National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161; \$11.50; PB 83 105 387. Written in 1980. (59)

*This report was not published but was made available to users through NTIS. Without a publisher's name, however, the work cannot be attributed to an organization; to help identify the origin of the work, the affiliation of the senior author is shown. Because a publication date does not exist on the document, a statement, **Written in 1980**, is added to the reference as a supplemental note.*

Collaboration Shown

A collaborator is different from a coauthor. Rather than participating in writing the work, the collaborator might relate a story or experience to another individual who writes it. Collaboration is usually shown on the publication by a named author with the collaborator.

Wakefield, P.A.; with Carrara, L. 1987. A moose for Jessica. New York: E.P. Dutton. (60) [Not paged].

Cooperation Shown

When cooperators are named, their role is shown in a supplemental note at the end of the citation. Include a cooperator's location when necessary to distinguish between geographically separate locations of the organization. For example: **U.S. Department of the Interior, Bureau of Land Management** could imply the Washington, DC, headquarters of the Agency. If the document indicates BLM in Reno, the location is necessary information for the reader: **U.S. Department of the Interior, Bureau of Land Management, Reno NV**. If the list of cooperators is lengthy—more than three names—do not include them in the citation.

Thomas, J.W., tech. ed. 1979. Wildlife habitats in forests: the Blue Mountains (61) of Oregon and Washington. Agric. Handb. 553. Washington, DC: U.S. Department of Agriculture. 512 p. In cooperation with: The Wildlife Management Institute; U.S. U.S. Department of the Interior, Bureau of Land Management.

The technical editor is named as author. Where a change of type size on the cover and title page is used to distinguish between portions of the formal title, a colon is used in the keyboarded citation. A semicolon separates names of the two cooperators because the name of one contains a comma.

Copyright Date Used as Publication Date

G. & C. Merriam Company. ©1951. Webster's dictionary of synonyms. Springfield, MA: G. & C. Merriam Co. 907 p. (62)

*The publication date is not shown on the original. Using the copyright date is preferred over the notation [N.d.]—meaning **no date**—when publication date is not indicated.*

Corporate Author

- U.S. Department of the Interior, Bureau of Land Management. 1964. Water developments: range improvements in Nevada for wildlife, livestock, and human use. Reno, NV: U.S. Department of the Interior, Bureau of Land Management. 37 p. (63)

When the author and publisher are the same, the name is supposed to be repeated in the bibliographic element stating the publisher's name. When such repetition creates a wordy citation—especially when a U.S. Government Agency is author and publisher—the second appearance of the name may be omitted.

- U.S. Department of Agriculture, Forest Service. 1988. The South's fourth forest: alternatives for the future. For. Resour. Rep. 24. Washington, DC. 512 p. (64)

In Press

Only manuscripts accepted for publication can be classed as *in press*. The notation appears in the same position as the publication date. A manuscript not yet accepted for publication cannot be cited as *in press*. Such a manuscript is *in preparation* and is referenced in a footnote or endnote to the text.

- Porter, P.E.; Meehan, R. [In press]. Seasonal composition of vertebrates in several Oregon streams. Res. Pap. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. (65)

The work has been approved by the Project Leader and the Communications Program Manager and has, therefore, been accepted for publication in an SRS series. In the text, the reference is (Porter and Meehan, in press).

- Hard, J. [In press]. Comparative success of spruce beetle attacks in pruned and unpruned boles of Lutz spruce. Forest Ecology and Management. (66)

The paper has been accepted for publication by the journal but is not yet published. Merely sending a paper to a journal does not constitute acceptance.

- Ryan, M.G.; Hunt, E.R., Jr.; Agren, G.I. [and others]. [In press (a)]. Comparing models of ecosystem function for temperate conifer forests, I. Journal of Forestry. (67)

- Ryan, M.G.; Hunt, E.R., Jr.; Agren, G.I. [and others]. [In press (b)]. Comparing models of ecosystem function for temperate conifer forests, II. Journal of Forestry. (68)

*These articles have been accepted for publication by the journal. Lowercased letters are included with *in press* to indicate alphabetical order.*

Map

- Oregon [Topographic]. 1966. Washington, DC: U.S. Geological Survey. 1: 500,000; Lambert conformal conic projection; colored. (69)

- World [Political]. 1957 March. Washington, DC: National Geographic Society. 1: 39,283,200; Van der Grinten projection; 41 x 29 in.; colored. Prepared for the National Geographic Magazine. (70)

- Potential natural vegetation of the conterminous United States [Vegetation]. A.W. Kuchler, cartog. 1964. New York: American Geographical Society. 1: 3,168,000; colored. (71)

- Wyoming general soil map [Soil]. J.F. Young, P.C. Singleton, cartogs. 1977. [Place of publication unknown]: University of Wyoming, Agriculture Experiment Station. [Scale unknown]; [Projection unknown]. 40 p. [Explanatory manual]. (72)

Missing Information

When required information is missing, identify the missing element in brackets and retain normal punctuation, which goes outside the closing bracket.

- Reutebuch, S.E., Jr.; Murphy, G.E. 1985. Using a computer aided planning package to assess the impact of environmental restrictions on harvesting systems. (73)
In: Forest operations in politically and environmentally sensitive areas: Proceedings, 8th annual meeting, council on forest engineering. [Place of publication unknown]: [Publisher unknown]: 16-25.

Two pieces of information are missing. Each piece goes in its own set of brackets with normal punctuation following each piece.

- Holsten, E.H.; Wemer, R.A. [1987]. Engraver beetles in Alaska forests [Leaflet]. (74)
[Portland, OR]: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. [Not paged].

The publication date does not appear on the leaflet. The writer knows the date, however, and supplies it in brackets. The publisher's location is not given on the leaflet and also is supplied in brackets. The information [Leaflet] supplied at the end of the title indicates a physical format different from the standard; it does not indicate missing information.

- Anon. [N.d.]. Summary of research activities at Trout Creek Division, Wind River Experimental Forest. [Place of publication unknown]: [Publisher unknown]. 6 p. (75)
On file with: Biomass and Energy Research Unit, Pacific Northwest Research Station, P.O. Box 3890, Portland, OR 97208 3890.

Because so much information is missing from the reference, a supplemental note was added to help readers locate a copy of the document.

More Than Three Authors

When a publication has three authors, all authors are named. For a publication by four authors, all four are named because it makes no sense to drop the fourth name only to add the notation **[and others]**. For a publication by more than four authors, names after the third author are replaced with the notation **[and others]**.

- Yoakum, J.; Dasmann, W.P.; Sanderson, H. [and others]. 1980. Habitat improvement techniques. (76)
In: Schemnitz, S.D., ed. Wildlife management techniques manual. Washington, DC: The Wildlife Society: 329-403.

More than four authors are shown on the publication.

- Beschta, R.L.; O'Leary, S.J.; Edwards, R.E.; Knoop, K.D. 1981. Sediment and organic matter transport in Oregon Coast Range streams. WRRRI 70. Corvallis, OR: Oregon State University, Water Resources Institute. 67 p. (77)

The fourth author is named.

When an author's initials precedes the notation **[and others]**, do not punctuate before the notation.

- Nichols, J.D.; Conroy, M.J. 1996. Estimation of species richness. In: Wilson, D.E.; Cole, F.R.; Nichols, J.D. [and others], eds. Measuring and monitoring biological diversity: standard methods for mammals. Washington, DC: Smithsonian Institution Press: 226-234. (78)

The article is in a publication with more than three editors.

- Franklin, J.F.; Spies, T.; Perry, D. [and others]. [In press]. Modifying Douglas-fir management regimes for nontimber objectives. In: Douglas fir: stand management for the future: Proceedings of the symposium. Seattle: University of Washington. (79)

The article has been accepted for publication in the proceedings.

Newspaper Article

- Glen Cove [NY] Record Pilot. 1974. Nassau Trust to open branches. July 18: 3 (col. 2). (80)

[NY] is added for clarity.

- The Oregonian. 1981. Crews contain blazes; lightning ignites more. August 20; Sect. B: 5 (col. 1). (81)

*This is an article without a byline. Cite as **The Oregonian 1981** in the text and Literature Cited, but alphabetize under **O**.*

- Burnham, D. 1977. 1 in 4 Americans exposed to hazards on job, study says. The New York Times. October 3: 1 (col. 2), 22 (col. 1). Washington, DC, Oct. 2. (82)

This is an article with a byline and dateline. The article is not on successive pages. Note: Titles of technical publications should not begin with a numeral, but when citing an item that does, give the title as published.

Magazine Article

- Harper, R.M. 1923. Development of agriculture in Georgia from 1850-1920: a series of four articles. Georgia Historical Quarterly. 6(1): 3-27; 6(2): 97-121; 6(3): 211-232; 6(4): 323-354. (83)

This article is published in a magazine in four different issues.

Part of a Series

- Martin, S.B.; Platts, W.S. 1981. Effects of mining. Gen. Tech. Rep. PNW 119. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station. 15 p. (Meehan, W.R., tech. ed.; Influence of forest and rangeland management on anadromous fish habitat in Western North America; pt. 8). (84)

The series the publication appears in is shown in parentheses at the end of the citation. Semicolons separate bibliographic groups in the series statement.

Part of a Work (Work Unit Fraction)

- Thompson, R.P.; Jones, J.G. 1981. Classifying nonindustrial private forestland by tract size. Journal of Forestry. 79(5): 288-291 (p. 290, table 2). (85)

The article appears on pages 288 through 291 of the journal, but table 2 on page 290 is the part being cited.

- Bryant, M.D. 1981. Evaluation of a small diameter baffled culvert for passing juvenile salmonids. Res. Note PNW 384. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station (p. 3, fig. 2). 8 p. (86)

This publication does not appear within another; therefore, the total number of pages must be shown (8 p.). The work-unit fraction being cited (fig. 2 on page 3) must then be given before the total number of pages.

- Howes, S.; Hazard, J.; Geist, J.M. 1981. [Untitled]. In: Guidelines for sampling soil resource conditions. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Region; R6 WM 066 1981 (p. 1 15). 20 p. (87)

Cites a report, not a monograph. The authors wrote a portion of the work being cited. Their section, which is untitled, is not a chapter or a unit that could be cited by itself, so the number of pages in the entire publication must be given. The authors' portion being cited is shown in parentheses.

Patent

- Harred, J.F.; Knight, A.R.; McIntyre, J.S., inventors; Dow Chemical Co., assignee. 1972. Epoxidation process. U.S. patent 3,654,317. April 4. 2 p. Int. Classif. C07D 1/08. (88)

- Titcomb, S.T.; Juers, A.A., inventors; International Telephone and Telegraph Corp., assignee. 1974. Reduced calorie bread and method of making same. U.S. patent 3,979,523. Sept. 7. 4 p. Int. Classif. A20D 2/00. (89)

Publisher with Two or More Locations

- Burges, A.; Raw, F., eds. 1967. Soil biology. London; New York: Academic Press. 532 p. (90)

The title page of the book shows two locations for the publisher. Because the U.S. city was shown second, both cities are included in the citation. For cities not well known, include the States. Multiple locations are separated by semicolons.

- Guyer, M.F.; Lane, C.E. 1964. Animal biology. 5th ed. New York: Harper & Row. 789 p. (91)

*The title page of the book names three locations for the publisher: **New York, Evanston, and London**. Because the first shown is a U.S. city, the other locations do not have to be included in the reference.*

- Kilpatrick, W.C.; Henry, C., Jr.; Ragus, J. [and others]. 1985. Soil survey in Grant Parish, Louisiana. New Orleans: U.S. Department of Agriculture, Soil Conservation Service and Forest Service; and Louisiana State University Agricultural Experiment Station. 143 p. + 20 maps. (92)

The publication was published in a domestic city that stands alone and all the publishers are located in the same city. This publication has 143 pages and 20 maps.

Recurring Publication

To cite many issues of a recurring publication, give the range of years; indicate in a supplemental note the frequency of publication.

- State of California, Division of Forestry. 1973 86. Brushland range improvement. Sacramento. Annual. (93)

- Library of Congress. 1984 85. National union catalog. Washington, DC. Monthly. (94)

Each citation implies that all or most issues published in the years given were used as reference.

Roman Numerals and Ordinals

Roman numerals (*I, II, IX*) and ordinals (*first, second, third*) should be converted to Arabic numbers (*1, 2, 9; 1st, 2d, 3d*), except in titles and where required for specific meaning.

- Kline, R.F. 1961. Economic logging sale layout. In: Pacific logging congress loggers handbook. Portland, OR: Pacific Logging Congress: 29-31, 115-125. Vol. 21. (95)

Vol. 21 appears as Volume XXI on the original document.

- Thomas, J.W. 1986. Wildlife habitat modeling cheers, fears, and introspection. In: Verner, J.; Morrison, M.L.; Ralph, C.J., eds. Wildlife 2000: modeling habitat relationships of terrestrial vertebrates. Madison, WI: The University of Wisconsin Press: xix-xxv. (96)

The work cited precedes the numbered pages in the document. The Roman numerals used as page numbers must be retained in this case to indicate proper location of the work within the document.

- Geist, J.M.; Edgerton, P.J. 1984. Fourwing saltbush establishment in the Keating uniform shrub garden first year results. Res. Note PNW 416. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station. 8 p. (97)

The ordinal first is retained rather than being changed to 1st because it appears in the title.

Sponsorship Shown

Organizations sponsoring a meeting or workshop are sometimes named on the cover or title page of published proceedings. Their role should be indicated after the pages cited but before any cooperators are named. Include the sponsor's location when necessary to distinguish among geographically separate locations of an organization. Add appropriate punctuation to separate different sponsors. If more than three sponsors are listed, do not include them in the citation.

- Spanner, M.A.; Teuber, K.; Acevedo, W. [and others]. 1984. Remote sensing of the leaf area index of temperate coniferous forests. In: Machine processing remotely sensed data: Proceedings of a symposium. West Lafayette, IN: Purdue University: 362-370. Sponsored by: Landsat Application and Remote Sensing. (98)

Cites a publication by more than three authors.

- Murray, M., ed. 1986. The yield advantages of artificial regeneration at high latitudes: Proceedings of the 6th international workshop on forest regeneration. Gen. Tech. Rep. PNW 194. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 60 p. Sponsored by: School of Agriculture and Land Resources Management, University of Alaska-Fairbanks; Canadian Forestry Service, Ottawa, ON. In cooperation with: School of Agriculture and Land Resources Management, University of Alaska Fairbanks. (99)

The editor of the proceedings is named as author. A proceedings is being cited rather than an article within; the proceedings identifier is not part of the formal title of the proceedings. The ordinal 6th appears as sixth on the publication. Sponsors and cooperators are named. University of Alaska-Fairbanks is punctuated as shown on the publication. A semicolon separates the two sponsors because a comma was used in the name of one.

Subordinate Title

A subordinate title is a term or phrase after the formal title that completes or qualifies the title. A proceedings identifier is a subordinate title. The subordinate title is separated from the main title by a colon. The first letter of a subordinate title is capitalized (*Transactions* in the Hoekstra reference, and *Proceedings* in the Hall reference below):

- Hoekstra, T.W.; Thomas, J.W.; Lennartz, M.R.; Worley, D.P. 1981. Managing of Federal lands for production and use of wildlife and fish. In: Sabol, K., ed. Resource management for the eighties: Transactions, 46th North American wildlife and natural resources conference. Washington, DC: Wildlife Management Institute: 336-344. (100)
- Hall, J.D.; Campbell, H.J. 1968. The effects of logging on the habitat of coho salmon and cutthroat trout in coastal streams. In: Logging and salmon: Proceedings of a forum. Juneau, AK: The American Institute of Fisheries Research Biologists, Alaska District: 5-37. (101)

The portion of the formal title following a colon is not a subordinate title. The first word after the colon, therefore, is not capitalized (*tests* in the following example) unless it is a proper name:

- Darr, D.R. 1981. Interactions between domestic and export markets for softwood lumber and plywood: tests of six hypotheses. Res. Pap. PNW 293. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station. 22 p. (102)

Title Reflects More Than One Part

Parts are identified according to the publisher's style. They may be numbered (as in the following example), lettered (*Part A*), or identified in other ways. Punctuate between the main title and title of the part.

- Sartwell, C.; Daterman, G.E.; Sower, L.L. [and others]. 1980. Mating disruption with synthetic sex attractants controls damage by *Eucosma sonomana* (Lepidoptera: Tortricidae, Olethreutinae) in *Pinus ponderosa* plantations. 1: Manually applied polyvinyl chloride formulation. Canadian Entomologist. 112: 159-162. (103)

Translated Title

Follow the capitalization rules of the language. Include all diacritical marks; omitting such marks is equivalent to misspelling. If the publication gives the title in more than one language, separate the title in the original language from the parallel title by an equal sign.

- Ruetz, W.F. 1981. Die Pazifische Edefanne nobilis eine Baumart für höhere Lagen? =The Pacific noble fir, a species plantable at higher elevations? Allgemeine Forstzeitschrift. 22: 549-551. (104)

When the title appears only in the original language, you may supply a translated title immediately after the original. Separate the original from the translated title by a colon. Normally, information being supplied is enclosed in brackets; a translated title, however, does not require brackets.

- Dietrichson, J. 1967. Klimaskader, vekstrytme og høydeutvikling: Climate damage, growth rhythm and height development. Meddelelser frå det Norske Skogforsøeksvesen. 21: 144-158. (105)

Transliterated Title

When bibliographic data on the original document are given in a non-Roman alphabet, transliterate the title to the Roman alphabet (you need not enclose the transliterated title in brackets). Indicate the language of the document in a supplemental note.

- Ogawa, M. 1977. Role of ecology of mushroom types in forest soil. 1: Ecological research methods and their problems. Soil Microbiology. 19: 39-50. In Japanese. (106)

The reference also shows a title with more than one part.

Two or More Publishers

Separate multiple publishers with a semicolon. If the publishers are in the same city, separate the publishers' names with a semicolon but do not repeat the city.

- Allen, D.L., ed. 1956. Pheasants in North America. Harrisburg, PA: Stackpole Co.; Washington, DC: Wildlife Management Institute. 71 p. (107)

CD-ROM, Diskette, and Magnetic Tape

- U.S. Department of Commerce, Bureau of the Census. 1992. Census of population and housing, 1990 [CD-ROM]. Summary tape file 3. Washington, DC: U.S Department of Commerce, Bureau of the Census. (108)

Online Journal

- Pastor, J.; Light, S.; Sovell, L. 1998. Sustainability and resilience in boreal regions: sources and consequences of variability. *Conservation Ecology*. 2(1): 16. <http://www.consecol.org/Journal/vol2/iss2/art16>. [Date accessed: July 24, 2000]. (109)

The date the author first accesses the Web site is listed in the reference. If the year is the same as the publication year, you do not need to repeat it.

Proceedings on CD-ROM

- Keep America Growing. [N.d.]. Keep America growing: Conference proceedings [CD-ROM]. [Place of publication unknown]. Additional information at: <http://www.nhq.nrcs.usda.gov/CCS/KAGnrcs.html>. [Date accessed: May 13, 2000]. (110)

Published on CD-ROM and Online

- Hargrove, W.H.; Luxmoore, R.J. 1998. A new high-resolution national map of vegetation ecoregions produced empirically using multivariate spatial clustering [CD-ROM]. Redlands, CA: Environmental Systems Research Institute, Inc. [Number of pages unknown]. http://www.esri.com/library/userconf/proc_98/PROCEED/TO350/PAP333/P333.HTM [Date accessed: February 11, 2001]. (111)

Published Both on Paper and Online

- Edson, J.L.; Everett, R.L.; Wenny, D.L.; Henderson, D.M. 1998. Shoot culture of *Astragalus*: toward conserving a threatened genus. In: Botanic gardens micropropagation news. [Location of publisher unknown]: Royal Botanic Gardens, Kew. 2(3): 34–36. <http://www.rbgekew.org.uk/science/micropropagation/bgmnews.html>. [Date accessed unknown]. (112)

- Raettig, T.L. 1999. Trends in key economic and social indicators for Pacific Northwest States and counties. Gen. Tech. Rep. PNW-GTR-474. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 30 p. http://www.fs.fed.us/pnw/pubs/gtr_474.pdf. [Date accessed: June 16]. (113)

- Hamel, P.B.; Brunswig, N.L.; Dawson, M.R.; Staten, M. 1999. Lying in wait for partners in flight: some experiences monitoring birds in southeastern bottomlands. In: Strategies for bird conservation: the partners in flight planning process. Ithaca, NY: Cornell University Lab of Ornithology. 11 p. <http://www.ornith.cornell.edu/pifcapemay/hamel.htm> and <http://www.ornith.cornell.edu/pifcapemay/twedt.htm> [Date accessed: July 10, 2001]. (114)

This publication is located on two Web sites.

Online Publication

- Prasad, A.M.; Iverson, L.R. 2000. A climate change atlas for 80 forest tree species of Eastern United States. <http://www.fs.fed.us/ne/delaware/atlas/>. [Date accessed: October 8, 2002]. (115)

U.S. Environmental Protection Agency. 1998. Interim air quality policy on wildland and prescribed fires. 43 p. <http://www.epa.gov/ttn/oarpg/tl/memoranda/firefnl.pdf>. [Date accessed: February 15, 2002]. (116)

Software Program, Commercial

Intuit, Inc. ©1999. Turbo tax deluxe. San Diego, CA. (117)

SAS Institute Inc. 1989. SAS/STAT user's guide. Version 6. 4th ed. Cary, NC: SAS Institute Inc. 846 p. (118)

This software has a version and an edition.

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












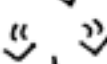

















Videocassette

Rummer, R.B. 1999. Forest engineering research: 30 years of research to support forest operations [Videocassette]. Auburn, AL: Auburn University Educational Television. [VHS format, 55-min.]. (121)

Domestic Cities that Stand Alone in Datelines

Atlanta	Honolulu	Oklahoma City
Baltimore	Houston	Philadelphia
Boston	Indianapolis	Pittsburgh
Chicago	Los Angeles	St. Louis
Cincinnati	Miami	Salt Lake City
Cleveland	Milwaukee	San Diego
Dallas	Minneapolis	San Francisco
Denver	New Orleans	Seattle
Detroit	New York	

Editing Symbols

	period		boldface (used in margin)
	comma		boldface (used in text)
	colon		capital letters (used in margin)
	semicolon		capital letters (used in text)
	turn a semicolon into a comma		lowercase letters (used in margin)
	insert hyphen		lowercase letters or delete (used in text)
	apostrophe		delete
	quotation marks		delete and close up
	insert 1-en dash (1 hyphen)		close up
	insert 1-em dash (2 hyphens)		move right
	paragraph		move left
	no paragraph		move up
	transpose		move down
	spell out		center horizontally
	italic (used in margin)		let it stand (used in margin)
	italic (used in text)		let it stand (used in text)

