

## 6. Punctuation

By and large, AFS publications follow the *Chicago Manual of Style* in matters of punctuation. In addition to noting basic rules of punctuation, this chapter highlights (1) areas in which AFS style differs from that in the *Chicago Manual* and (2) situations that are apt to cause difficulty for authors.

### PUNCTUATION MARKS

#### Colons

- 6.1** When emphasis is desired, a colon may be used to introduce a secondary clause that is closely related to the main clause:

This approach often leads to a serious problem: noncomparable data.

The results are quite clear: recruitment is a function of stream temperature.

Note that the secondary clause need not be complete and that the first word is not capitalized even when the clause is complete.

- 6.2** A colon may also be used to introduce a list, provided that it does not come between a verb and its object(s) or after an expression like “such as” and “namely”:

The following treatments were administered: x, y, and z.

The treatments were x, y, and z. *not* The treatments were: x, y, and z.

Certain substrates were preferred: sand, gravel, and cobble.

*but* Certain substrates were preferred, namely, sand, gravel, and cobble.

- 6.3** In scientific papers, colons are often used to indicate ratios (see section 5.25):

strontium : calcium Sr:Ca 1:1

12 h light : 12 h dark

#### Commas

- 6.4** Commas should be used after each item in a series of three or more items:

egg, alevin, and fry stages *not* egg, alevin and fry stages

**6.5** With the exception noted in section 6.7, commas should be used after long introductory phrases:

After an acclimation period of 72 h, the fish. . . .

They may be omitted after short introductory phrases, however:

One week later the fish. . . .

By 1999 the situation had changed.

**6.6** With the exception noted in section 6.7, commas should be used to separate independent clauses that are joined by the words “and,” “but,” “for,” “or,” “so,” and “yet”:

Previous research suggested that survival was density dependent, and our findings strongly support that conclusion.

Commas should not be used when one clause shares its subject with another clause:

We collected additional data and performed an analysis of variance on the expanded data set.

**6.7** Commas should not be used after introductory phrases that are associated with the second independent clause in a compound sentence or to separate independent clauses with a common introductory phrase:

Specimens were obtained by gill netting, and although the samples were not as large as expected they were adequate for our purposes.

At the laboratory, DNA samples were extracted from the fish and electrophoresis was performed to determine whether the populations were genetically distinct.

**6.8** Semicolons should be used instead of commas to separate independent clauses that are joined by one of the following adverbs:

also	anyway	besides	consequently
finally	furthermore	hence	however
incidentally	indeed	instead	likewise
meanwhile	moreover	nevertheless	next
otherwise	still	then	therefore
thus			

Tests showed no significant differences between groups 1 and 2; therefore, these groups were pooled in subsequent analyses.

**6.9** Commas may be used with appositives (i.e., two terms referring to the same thing) and material of a parenthetical nature:

The dependent variable,  $y_t$ , was defined as. . . .

The study area, which comprises all or part of three administrative districts, . . .

In some cases, however, it may be preferable to put such material within parentheses per se.

Ellipses (Sequences of dots)

**6.10** Ellipses are used to indicate omissions in quotations:

“Fisheries management draws on bioenergetics, genetics, . . . , and other specialties.”

“This finding was considered definitive. . . .”

Note that the dots are separated by spaces and that four dots are used when the omission occurs at the end of a sentence.

Em and En Dashes

**6.11** Dashes of two different lengths serve different purposes in formal writing. The longer ones, which are called em dashes, are used to emphasize material of a parenthetical nature:

Determining the toxicity to fish—the principal goal of the experiment—was problematical.

**6.12** The shorter ones, which are called en dashes, are mainly used to indicate a range of numbers or other sequential items:

6–10 mm May–July 1996

Note, however, that hyphens are used with nonsequential numbers:

Project 83-465

**6.13** In AFS publications, en dashes are also used as a replacement for “and,” “to,” and “at” in compounds:

Beverton–Holt length–weight relationship University of Wisconsin–Madison

Hyphens should be used in compounds not involving “and,” “to,” or “at”:

length-frequency analysis [i.e., of the frequency distribution of lengths]  
Smith-Root [compound legal name]

## Forward Slashes

- 6.14** In ordinary text (as opposed to mathematical expressions and special symbols), a forward slash is equivalent to the word “or.” It may be used in this sense in AFS publications:

morbidity/mortality

It should never be used as a substitute for the word “and,” however:

lakes and rivers *not* lakes/rivers

## Hyphens

- 6.15** Hyphens are used primarily in (1) compound words, (2) compound names, (3) grant and project numbers, and (4) chemical names:

gill-net fishery clear-cut areas *P*-value

Cavalli-Sforza

grant GB-6708 Project FWS-97-12

glucose-6-phosphate dehydrogenase 2,4-D

See Chapter 10 and Appendix A for additional information on the use of hyphens in compound words; see sections 6.12–6.13 for situations in which en dashes are used instead of hyphens.

## Parentheses

- 6.16** Parentheses may be used to provide subsidiary information or indicate the equivalence between terms:

Our goal (in addition to bringing the existing time series up to date) was to obtain more detailed data on Striped Bass.

Fish without this genetic marker (hereafter, “strays”). . . .

Parentheses are particularly useful in long or complex sentences.

## Semicolons

- 6.17** The most common use of semicolons is to connect closely related clauses:

The finding of . . . was highly unusual; as a result, we. . . .

See section 6.8 for additional information on this use of the semicolon.

- 6.18** Semicolons may also be used to separate items in a list when the items are numerous or contain commas:

We obtained fish samples from the following reaches (indicated by river kilometers): 67–73, which is free-flowing; 47–51, which is impounded by the dam; and 6–11, which is largely regulated by dam operations.

- 6.19** In AFS publications, semicolons are also used to separate citations and to separate closely related items from others within parentheses:

(Smith 1999; Thompson 2001)

( $F_{1, 29} = 7.98, P = 0.034$ ; Table 1)

## USE WITH QUOTATION MARKS, ITALICS, AND BOLDFACE

- 6.20** In expressions involving quotation marks, periods and commas are always placed inside the quotation marks and colons and semicolons are always placed outside of them. Dashes, question marks, and exclamation points are placed inside the quotation marks when they are part of the quoted material and outside when they apply to the entire sentence (see the examples in section 7.4)

- 6.21** Punctuation marks should be in ordinary type even when they come immediately after terms in italic or boldface type:

. . . populations of rainbow trout *O. mykiss*, which. . .

. . . the variance–covariance matrix  $\mathbf{X}'\mathbf{X}^{-1}$ .

## LISTS

Lists of the variables in a mathematical expression are dealt with in section 4.8.

Other lists may either be run into the text or set off from it in one or more columns. In either format, the items must be grammatically the same (e.g., all nouns, verbal phrases, complete sentences, and so forth). The items may be numbered or bulleted if this facilitates comprehension, but letters may not be used.

- 6.22** A run-in list forms a natural part of a sentence:

The study had three goals: (1) to determine overall species richness in the lower portion of the river, (2) to determine the distribution of individual species by habitat type, and (3) to identify any changes in species richness and distribution since the construction of the dam.

Run-in lists are most appropriate when the number of items is small. If numbers are used, they should be enclosed in parentheses; semicolons may be substituted for commas when there are commas within the items themselves (see section 6.18).

**6.23** A column (or vertical) list is introduced by a complete clause and generally followed by a colon. The format of the list itself varies according to the length and complexity of the items in it. Simple lists require no numbering or punctuation:

The student volunteers were asked to bring the following:

rain gear  
insect repellent  
a change of clothing  
...

Note the blank line after the lead-in.

More complex lists should be numbered or bulleted:

Four management recommendations emerge from this study:

1. Increasing the minimum length limit
2. Shortening the fishing season
- ...

The following lakes are characterized by extreme acidification:

- Beaver
- Williams
- White Rock
- ...

Numbers are preferable if the number or sequence of the items is important. Note that numbers are followed by periods and that the first letter of each item in the list is capitalized.

If the items in a vertical list are an integral part of the sentence, they should be separated by semicolons with a period after the last one:

The procedure consists of

1. sampling the entire length of the creek right after ice-out;
2. sampling the shallower portions during the spring spawning season; and
3. sampling the deeper portions in late summer.

Note that in this case the first letter of each item is not capitalized.