**Conventions for writing scientific papers in biology**

**Scientific Names**

* The first time you introduce a species, use both the common and scientific names. Like this “isotope analysis of raptor migration has focused on common raptors, including the Cooper’s Hawk (*Accipiter* *cooperii*).
* Once you’ve introduced a species, you can choose to use either the common or scientific name, but you must be consistent for the rest of the document
* If you are writing about multiple species in the same genus, you can abbreviate the genus *after you’ve introduced it* as long as you don’t have any other species with a genus starting with the same first letter. For example you could say “the Cooper’s Hawk (*Accipiter* *cooperii*) is commonly found in northeastern forests. *A. cooperii* is similar in appearance to the sharp-shin hawk (*A. striatus*). This works because both hawks are in the same genus. If you then start talking about the Cinereous Vulture (*Aegypius monachus*), you can’t abbreviate the genus *Accipiter* **or** *Aegypius* anymore. That would lead to confusion and a reader might think the vulture and the hawks were in the same genus (insert shocked face!).

**Talking about Scientists**

Don’t say *scientists* can do this or that. Or *researchers* have learned/studied/etc. Really, just refrain from talking about scientists/researchers in the generic sense. Only non-scientists do that.

**Using Past Tense[[1]](#footnote-1)**

Research papers reflect work that has been completed, therefore use the past tense throughout your paper (including the Introduction) when referring to the *actual work* that you did, including statements about your expectations or hypotheses. Use the past tense, as well, when referring to the work of others that you may cite.

**First vs. Third Person1**

If there is one stylistic area where scientific disciplines and journals vary widely, it is the use of first vs. third person constructions. Some disciplines and their journals (e.g., organismal biology and ecology) have moved away from a very strict adherence to the third person construction, and permit limited use of the first person in published papers. Other disciplines, especially the biomedical fields, still prefer the third person construction. Generally in field courses at Earlham (with Wendy, Heather, Chris or Karen), limit your use of first person construction (i.e., " *I (or we) undertook this study .*...): usually it is most acceptable in the Introduction and Discussion sections, and then only to a limited extent. Use first person in the methods *sparingly* if at all, and avoid its use in the results where the data are the ones talking.

**Use Active Verbs**1

Use active verbs whenever possible; writing that overly uses passive verbs (is, was, has, have, had) is deadly to read and almost always results in more words than necessary to say the same thing.

ACTIVE: "*the****mouse consumed****oxygen at a higher rate*..."

PASSIVE: "*oxygen****was consumed****by the mouse at a higher rate*.."

The clarity and efficacy of your writing will improve dramatically as you increase the use of the active voice.

**Data1**

is plural (singular, datum). Data **are**, Data **were**; **NEVER** Data **is** or Data **was**.[[2]](#footnote-2)

**Tables and figures.2**

In the natural sciences, the convention is always to place figures **titles below the figure**; place **titles for tables above the table**. Conventions in social sciences and the humanities vary among publishers. Follow the conventions of your audience! In all cases, the title should be descriptive of the table or figure, provide enough information that it can stand alone, separate from the text. Number all tables and figures, and refer to them in the text.

1. http://abacus.bates.edu/~ganderso/biology/resources/writing/HTWgeneral.html [↑](#footnote-ref-1)
2. http://ic.ucsc.edu/~ggilbert/envs122/ConventionsScienceWriting.html [↑](#footnote-ref-2)