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Research and Information Systems in the Life Sciences (ENT 5984)  
Information Research Assignment  
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## Bibliography

- Bren LJ. 1993. Riparian zone, stream, and floodplain issues: A review. *J Hydrol* 150:277-299.
- Death RG. 2002. Predicting invertebrate diversity from disturbance regimes in forest streams. *Oikos* 97:18-30.
- Iwata M. 1930. On the adaption of aquatic insects in rapid streams [In Japanese]. *Kontyu* 4:1-13.
- Morofsky WF. 1936. Survey of insect fauna of some Michigan trout streams in connection with improved and unimproved streams. *J Econ Entomol* 29:749-754.
- Percival E, Whitehead H. 1929. Quantitative study of the insects of some type of stream-bed. *J Ecology* 17:282-314.
- Ross RM, Bennett RM, Snyder CD, Young JA, Smith DR, Lemarie DP. 2003. Influence of eastern hemlock (*Tsuga canadensis* L.) on fish community structure and function in headwater streams of the Delaware River basin. *Ecol Freshwater Fish* 12:60-65.
- Shelford VE, Eddy S. 1929. Methods for the study of stream communities. *Ecology* 10:382-391.
- Sponseller RA, Benfield EF, Valett HM. 2001. Relationships between land use, spatial scale and stream macroinvertebrate communities. *Freshwat Biol* 46:1409-1424.
- United States Geological Survey, Leetown Science Center. 2002 Sep 11. Stream ecology linked to eastern hemlock decline in Delaware Water Gap National Recreation Area. <<http://www.lsc.usgs.gov/aeb/2048-03/dewa.asp>> Accessed 2003 Sep 3.
- Wagner G. 1930. Der einfluss des waldes auf die gewässer [influence of forests on bodies of water]. *Aus der Heimat* 43:76-79.
- Young JA, Smith DR, Snyder CD, Lemarie DP. 2002. A terrain-based paired-site sampling design to assess biodiversity losses from eastern hemlock decline. *Environ Mon Assess* 76:167-183.

I compiled the above bibliography to accompany the research question of “how do changes in forest systems affect stream ecology, specifically the diversity of aquatic insects?” I decided that the following keywords might yield productive searches: stream(s), forest, change, decline, macroinvertebrate, ecology, (bio)diversity, freshwater, disturbance, and hemlock.

Below, I describe how I compiled the bibliography using print indexes, electronic indexes and the world wide web. Included are the indexes and search terms that I used and the call numbers for the journals. All references are cited using the Council of Biology Editors style format.

#### Pre-1950 references, using print indexes

For the pre-1950 references, I examined three print indexes: *Zoologic Record* (1905-1940), *Biological Abstracts* (1929-1940) and *The Agricultural Index* (October 1942 – August 1951).

The subject terms I used varied based on the type of index and on the year the index was published. For example, in the *Zoologic Record* index (in which references are arranged taxonomically), the relevant subject headings under the general category Insecta changed during the time period in which I searched. The subject hierarchy “Insecta-Ethology-Aquatic” became Insecta-Ethology-Hydrobiology in 1925 and later was changed to “Insecta-Ecology-Aquatic Insects” in 1937. In *Biological Abstracts*, I found the most useful information under the “streams” subject heading. However, I also tried using forest, aquatic, fresh water, water and hemlock, with varying success. In *The Agricultural Index*, I looked for information under the subject headings stream(s), fresh water biology/ecology, and forest, but chose not to select a reference from these indexes.

Iwata M. 1930. On the adaption of aquatic insects in rapid streams [In Japanese]. *Kontyu* 4:1-13.

- This reference was found in *Biological Abstracts* (1931) under the subject heading “streams - insects, adaptations”
- The call number for this journal (which much later was renamed the Japanese Journal of Entomology) is QL 461 K6.

Morofsky WF. 1936. Survey of insect fauna of some Michigan trout streams in connection with improved and unimproved streams. *J Econ Entomol* 29:749-754.

- This reference was found in *Biological Abstracts* (1937) under the subject heading “streams - trout, survey, of insect fauna.”
- The call number for this journal is SB 599 J5.
- This volume was found in the stacks and is also on microfilm; a copy is attached.

Percival E, Whitehead H. 1929. Quantitative study of the insects of some type of stream-bed. *J Ecology* 17:282-314.

- This reference was found in *Zoologic Record* (1929) under the subject headings “XI. Insecta – Ethology – Hydrobiology.”
- The call number for this journal is QH 540 J68.

Shelford VE, Eddy S. 1929. Methods for the study of stream communities. *Ecology* 10:382-391.

- This reference was found in *Biological Abstracts* (1931) under the subject heading “streams - communities, methods of study.”
- The call number for this journal is QH 540 E3.

Wagner G. 1930. Der einfluss des waldes auf die gewässer [influence of forests on bodies of water]. *Aus der Heimat* 43:76-79.

- This reference was found in *Biological Abstracts* (1931) under the subject heading “streams - as influenced by forests.”
- This journal is not available from the Virginia Tech library. According to a translator web page ([babelfish.altavista.com](http://babelfish.altavista.com)), “aus der heimat” means “from the homeland” in German.

#### Post-1970 references, using electronic indexes

Because electronic indexes usually search for subject terms from keywords, title, abstract, and indexing categories (i.e., concept codes), I decided to use more specific search terms for the electronic indexes compared to the print indexes. When searching the *Biological Abstracts* databases (from 1969 to 2003), I used the following search strings: “stream and biodiversity and forest”, “review and stream and ecology and forest,” and “hemlock and stream and adelgid.” In a *CABDirect* search (publication years 1973 to 2003), I used the search string “stream and forest and diversity.” For a search of the *Ecology Abstracts* database (1982 – present), I used “stream and forest and Appalachian” to look for references.

The full bibliographic records from the electronic index for each of the following references are attached.

Bren LJ. 1993. Riparian zone, stream, and floodplain issues: A review. *J Hydrol* 150:277-299.

- This is my review article.
- The reference is from a *Biological Abstracts* search using “review and stream and ecology and forest.”
- The call number for this journal is GB 651 J6.

Death RG. 2002. Predicting invertebrate diversity from disturbance regimes in forest streams. *Oikos* 97:18-30.

- This reference is from a CABDirect search using “stream and forest and diversity.”
- The call number for this journal is QH 540 O35.

Ross RM, Bennett RM, Snyder CD, Young JA, Smith DR, Lemarie DP. 2003. Influence of eastern hemlock (*Tsuga canadensis* L.) on fish community structure and function in headwater streams of the Delaware River basin. *Ecol Freshwater Fish* 12:60-65.

- This reference from a Biological Abstracts search using “stream and biodiversity and forest” and was also found using “hemlock and stream and adelgid.”
- The call number for this journal is QL 624 E26.

Sponseller RA, Benfield EF, Valett HM. 2001. Relationships between land use, spatial scale and stream macroinvertebrate communities. *Freshwat Biol* 46:1409-1424.

- This reference is from an Ecology Abstracts search using “stream and forest and Appalachian.”
- The call number for this journal is QH 96 F7 and is available online.

Young JA, Smith DR, Snyder CD, Lemarie DP. 2002. A terrain-based paired-site sampling design to assess biodiversity losses from eastern hemlock decline. *Environ Mon Assess* 76:167-183.

- This reference is from a Biological Abstracts search using “stream and biodiversity and forest.”
- The call number for this journal is TD 169 E617.

### Web Site Reference

I found this web site through a google (Google.com) search for “stream and forest and biodiversity.” This web site was the 26<sup>th</sup> result out of about 125,000 returned. Other web sites returned for this search included links to published abstracts or articles, student websites and other government agencies.

United States Geological Survey, Leetown Science Center. 2002 Sep 11. Stream ecology linked to eastern hemlock decline in Delaware Water Gap National Recreation Area. <http://www.lsc.usgs.gov/aeb/2048-03/dewa.asp> Accessed 2003 Sep 3.

I believe that this web site is a reliable source of information because it is associated with a government agency, because the contact information and links are included, and because the authors have had parts of the research project published in peer-reviewed journals.

Copy of a pre-1950 Reference

<a photocopy of a reference was attached>

Full Bibliographic Records from Electronic Indexes for the post-1970 References

<printouts from electronic index searches were attached>