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Bibliographies as an Extension Outreach Tool: An Old Method in a New Age

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Abstract
Bibliographies, a librarian's basic tool, prove to be useful tools for Extension work. We all make lists of information--books, Extension bulletins, journal articles. Do we do it effectively? Defining the audience, determining the coverage, and creating timely access are a few of the challenges. Two Web-searchable bibliographies provide case studies of how this classic tool can address information needs.

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Introduction

The concept of bibliography, or the making of lists of information, provides a useful tool for Extension people. Careful selection of information sources can take the chaos out of the world of information for an audience and deliver focused information effectively. Adding annotations or abstracts helps the reader decide whether to seek more or be satisfied with the succinct summary.

Many already create bibliographies and just do not call them that. Scientists keep electronic lists of their reprints filed in their offices. Extension agents put together lists of useful publications for their clientele (Conway, Corcoran, Duncan, & Ketchum, 1997; Hilderbrand, 2001.) Librarians print out selected sources from electronic indexes to help students find relevant material.

In each of these examples, the creator is selecting information and presenting it in a usable format. Their purpose is to help people find relevant information, consequently facilitating the transfer of information (Harmon, 1998; Radhakrishna & Thomson, 1996.) This parallels Extension's focus on "reaching people with research-based information in a timely manner" (Scholl, 1994.)

Typically, Extension personnel take the most relevant information and weave it into a bulletin or fact sheet. It gets printed, posted to the World Wide Web, or directly distributed to constituents via email. The first step, though, is the creation of a bibliography, or the making of a list of the information the agent wants to use. Increased electronic access to information makes it easier for Extension agents to find and compile sources. It is also easier to get carried away and gather too much or include inappropriate sources. Information is everywhere--good information is harder to find.

Creating lists of information has new possibilities with the Web as a delivery mechanism. The static lists or bibliographies of past decades now can be dynamic, with links to full text of the documents cited or to online requests for more information. The Web-based bibliography becomes a gateway to more information as well as a concise overview of a subject. It saves the public's time by pointing them to useful and relevant information on a subject. Creating bibliographies saves the Extension agent's time by providing a framework for collecting and organizing information on enduring or "hot" topics.

As a librarian working with Extension people, I have worked on two projects involving selecting and providing access to information. A bibliography was one of our end products, and the process of creating the bibliography became an outreach tool. (For a basic explanation of why and how to

create a bibliography, see my Tools of the Trade article in this issue, "How to Create a Bibliography.") This article uses the two projects as case studies to explore how to create and use bibliographies as effective Extension outreach tools.

The Projects and Their Bibliographic Issues

The two projects, the Yaquina Bay Bibliography and the Seafood Wastewater Bibliography, differ in their intent, design, and distribution, yet share challenges in their creation. The Yaquina Bay Bibliography catalogues the research on this Oregon estuary while describing its environmental history. The original intent was to collect comprehensively on this discrete geographic area. As the project developed, the project staff realized the bibliography's potential as a means for exploring natural resource issues. This expansion of intent posed challenges:

1. How to define the geographic area, watershed versus estuary, and

2. How to promote the use of the bibliography by those outside of the university, in this case, the watershed council members and interested citizens.

The second project, the Seafood Wastewater Bibliography, is a more typical Extension tool, a listing of selected best practices and important information on a "hot" topic. Here, the project staff was challenged with deciding if Web-based access to citations information is an effective tool for the target audience. Other Extension projects have had mixed results with Web delivery (Taylor & Curtis, 1999; Walker & Holden, 2000; Swann & Einstein, 2000; Rodewald, 2001) and some excellent results with direct email (Siegrist et al., 1998). Consistently effective delivery of Extension information over the Web proves elusive.

Challenges aside, both bibliography projects illustrate how an Extension agent can use an old tool to do the following:

- Address narrow as well as broad topics,
- Focus on the changing needs of your audience, and
- Experiment with delivery of information in multiple formats.

Compiling the bibliographies takes time, expertise, and commitment. Many have written on the mechanics of compiling a bibliography (Bates, 1976; Robinson, 1966; Krummel, 1984; Jacsó & Lancaster, 1999.) These tend to be complicated treatises on the art of bibliography from passionate practitioners, full of useful insights and procedures, but difficult to directly apply to the Extension work.

In brief, here are the major issues to consider:

- **Audience:** Who is your audience, what type of information do they want, and how do they want it?
- **Current state of the information:** Has the information already been collected, and does enough information exist to justify your effort?
- **Scope and coverage:** What is your topic, where are you going to look for information, and how you going to select it?
- **Content and style:** How will you describe, enhance, organize, distribute, and maintain the information?

These are not trivial or simple issues. The more time spent addressing them at the beginning of the project, the smoother the information gathering and actual making of the bibliography will be. Below, the Yaquina Bay Bibliography and the Seafood Wastewater Bibliography describe how these four issues can be addressed, and bibliographies developed as Extension tools.

Yaquina Bay Bibliography
< http://osulibrary.orst.edu/guin/yaqbib.htm>

The Audience

Researchers of the Environmental Protection Agency (EPA) as well as faculty and students at Oregon State University (OSU) needed to know what research had been conducted on the local estuary, Yaquina Bay. It would help them identify environmental benchmarks and plan new projects. The local watershed council was also interested in having a better understanding of the watershed and how it had changed over time.

The Current State of Information

Several print bibliographies existed, one specifically on Yaquina Bay and another on estuaries of Oregon. Though dated, both covered important material and made good starting points. They also gave the project staff a sense of how much material was available, making it easier to gauge the time and effort needed.

Scope and Coverage

This was meant to be a comprehensive bibliography on the natural environment of the Yaquina

Bay and its watershed. This broad scope included the obvious fieldwork, laboratory experiments using animals from the Bay, and demographic studies showing human pressure on the ecosystem. The time period was from the first published scientific reports (surveys in the 1860s) to the present. The geographic scope was the Yaquina Bay and River to tidewater.

Content and Style

ProCite®, a common bibliographic software was used to enter and organize the information. The existing ProCite® templates worked well except for government documents, theses, and unpublished agency reports, and these templates were adapted to ease data entry. Each citation contains at least one general subject keyword (Biological, Physical, Geologic or Chemical), one geographic keyword, and at least two other subject keywords. Researchers in the EPA requested the inclusion of the general keywords, because they wanted to be able to do quick, broad searches as well as more selective ones. Abstracts were not included because of copyright concerns and lack of time to create original ones.

Initially, the bibliography was available as a ProCite® file to those with this software and as a text file on the Web. When Reference WebPoster® was developed, this inexpensive software was loaded on an NT server, and now users have a simple search engine for the bibliography.

Seafood Wastewater Bibliography <http://osulibrary.orst.edu/guin/seawastebib/>

The Audience

The people working in the seafood industry in the West Coast of the United State and Canada face pressure to handle the wastewater issue better. These are very busy, working people with good on-line access but little time to find information and often little access to current scientific information. They want solutions, and many turn to their Extension agents for help. Sea Grant Extension agents in Oregon and Alaska identified a need for an overview of best practices for handling seafood wastewater. One agent and I decided to explore providing those people direct access to current thinking on best practices.

The Current State of Information

Little has been done to pull together information on wastewater practices in the seafood industry. Ken Hilderbrand, an Oregon Sea Grant Extension specialist, maintains a list of information on seafood waste and composting, but this does not include material on the water stream (2001). Information exists in other sectors of the food industry that is relevant to the problems faced by the seafood industry.

Scope and Coverage

This selective bibliography attempts to collect documents that would give a user a basic understanding of the processes and the issues of seafood wastewater. Some resources with more specific information addressing a particular species or treatment technique are also included. Most of the material has been published since 1970, with older material if still relevant. While the Pacific Northwest and Alaska are the geographic areas of most interest, often material from other parts of the world are useful.

Content and Style

Again, the bibliographic software, ProCite®, was used fairly easily. As much bibliographic information as possible was entered, and downloaded citations were verified and enhanced. Abstracts were downloaded when available without copyright issues. Keywords were added after creating a relevant thesaurus combining terms from the *Water Resources Abstracts Thesaurus* and the *Aquatic Sciences and Fisheries Abstracts Thesaurus*.

Challenges and Observations

Defining the Scope

While the scope of each project appears by its title to be quite precise, both were problematic. The graduate student working on the Yaquina Bay project and I ran into problems of where to set the geographic boundaries because we felt those would define the geographic scope of the bibliography. Because the Yaquina Bay's watershed is extensive, we decided a focus on the estuary and tidal river was appropriate for this project. Consequently, forestry material not directly related to the water and any information outside of the Bay entrance is not included.

These decisions evolved as we worked. So the process was not neat, and the scope was somewhat fluid. More documentation of decisions would have been useful, providing future users a firm understanding of what is included and what is not.

Creating a selective bibliography is more difficult than creating a comprehensive one because you need to choose, though it is easier in that you do not have to gather as much or worry about missing something. My colleagues and I struggled with our selection criteria for the Seafood

Wastewater Bibliography and still are not sure if we have winnowed down the bibliography to the best information on current practices.

A graduate student with a background in environmental science and librarianship did much of the selection. He began with the contents of an Extension agent's file drawer and then explored other resources. In hindsight, because expertise is critical, we should have spent more time as a project group selecting what to include. Instead, we continue to review the bibliography's coverage for quality and relevance.

Keywords and Thesauri

Creating lists of keywords also proved challenging for both projects. For the Yaquina Bay Bibliography, we initially built a list by entering the theses and dissertations, and seeing what we needed for coverage. Usage of common names versus scientific names also was a decision point; we included both. Subject keywords were checked against an existing thesaurus, *Aquatic Science and Fisheries Abstracts Thesaurus*. Sometimes we could find appropriate terms, and other times, not. In the Seafood Wastewater project, we found conflicts between and gaps within the two thesauri used. For example, one uses ground fish, while the other uses bottom fish.

In both projects, we struggled with whether to use natural language keywords, words that the general public or a non-librarian would probably use, or stick with those found in the thesaurus. Deciding which to use meant a decision as to what our audience would use. Keeping the audience in mind helped resolve issues. Our lists of keywords changed and grew over time. More work could have been done in the beginning to avoid some of the pitfalls.

Usage

The Yaquina Bay Bibliography has proven to be very useful to the researchers and local managers, especially the local watershed council and students beginning research projects. Because we worked with the information in hand to do the entry, a copy of all that is listed is available in the library. Users cannot only find the citation to some obscure piece of information; they can get their hands on that information. The same is true for the wastewater material.

People are beginning to expect access to the full-text and not just a citation. Eventually, we hope to link the bibliographies' citations to the full-text of items when possible. Given copyright and technical issues, providing the full-text electronically will be an interesting project for librarians and Extension agents.

The Seafood Wastewater Bibliography is an example of the conundrum mentioned earlier: if you create the bibliography, will it get used, and if you do not create it, you will never know. As we developed this resource, we did limited testing of it with potential users to see if the format worked and the concept was attractive. Our results were mixed; there was enthusiasm for the concept, but little obvious support for more development. This is puzzling and a bit discouraging. The project group still believes the need exists from conversations with people in the seafood industry.

Expenses, Maintenance, and the Future

The original grant for the Yaquina Bay Bibliography was $14,500, and this funded a graduate student's time for a year. Over 1100 citations have been entered, and it is updated quarterly. A clickable map has been developed, giving geo-spatial access in a visual manner rather than just having the Web-searchable access to the bibliography. Producing similar bibliographies on each of Oregon's estuaries would provide tools for planning research and restoring watersheds.

Costs on the Seafood Wastewater Bibliography were similar in scale. Although this was a more focused and shorter bibliography, more time was spent exploring the problems of reaching the target audience and getting feedback through presentations and interviews.

We are writing an Extension bulletin using the information gathered and will see if a text summary is a better delivery mechanism than a list of relevant resources. We are also working on two more short bibliographies to see if a critical mass needs to exist before an electronic resource is used consistently, if people just need time to get used to a product, or if they still prefer to call their local agent. We remain convinced that the need exists for timely information for the industry but realize that how to provide it is the challenge, as others have pointed out (Shih & Evans, 1991; Kuhlthau, 1999; Rodewald, 2001.)

Conclusion

Creating relevant and timely bibliographies is a useful tool in Extension work. The compiler gains more familiarity with the information on a subject, and that familiarity can lead to better communication with constituents. So the process as well as the product is useful.

Creating bibliographies are not without their challenges, however. Describing the scope clearly and knowing the audience have always been issues for Extension. With changing demographics, awareness of who your audience is and how they use information becomes even more important for effective Extension work (Westbrook, 1995.) Being disciplined in the collection and entry of citations remains a critical component in producing a relevant resource list. The advent of more electronic information and the proliferation of "experts" suggest the increased importance of the

Extension agent's expertise.

Finally, figuring out the best means of distribution requires attention to the skills and needs of your audience. Web-based delivery may be easy for those who provide information; however, more research is needed in how to do it effectively to reach the target audience (Wang, Tenopir, Layman, Pennlman, & Collins, 1998).

Extension work in this century will rely on new delivery methods while using traditional and proven tools (Ezell, 1989; Donaldson, 1998.) Extension agents will look more broadly for new collaborators to explore projects, work on products, and assist in evaluation. Remember that your librarian may be a very willing collaborator who is interested in helping you and your clientele find and use information efficiently and effectively.

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References

Bates, M. J. (1976). Rigorous systematic bibliography. *RQ*, 16(1), 7-26.

Conway, F. D. L., Corcoran, P., Duncan, A., & Ketchum, L. (1997). A tool for towns in transition. *Journal of Extension* [On-line], 35(4). Available at: http://www.joe.org/joe/1997august/tt2.html

Donaldson, J. L. (1998). What is Extension's itinerary for information superhighway travel? *Journal of Extension* [On-line], 36(6). Available at: http://www.joe.org/joe/1998december/comm1.html

Ezell, M. P. (1989). Communication-age trends affecting Extension. *Journal of Extension* [On-line], 27(3). Available at: http://www.joe.org/joe/1989fall/a8.html

Harmon, R. B. (1998). *Elements of bibliography : A guide to information sources and practical applications*. 3rd ed. ed. Lanham, Md. : Scarecrow Press.

Hildebrand, K. (2001). Seafood waste management bibliography. Newport, OR. Oregon Sea Grant. Available at: http://seagrant.orst.edu/sgpubs/onlinepubs/i01002.pdf

Jacsó, P., & Lancaster, F. W. F. W. (1999). *Build your own database*. Chicago : American Library Association.

Krummel, D. W. (1984). *Bibliographies, their aims and methods*. New York, NY.: Mansell ; H.W. Wilson Co.

Kuhlthau, C. C. (1999.) Accomodating the user's informationsearch process: Challenges for information retrieval system designers. *Bulletin of the American Society for Information Science*, 25(3):12-16.

Radhakrishna, R. B., & Thomson, J. S. (1996). Extension agents' use of information sources. *Journal of Extension* [On-line], 34(1). Available at: http://www.joe.org/joe/1996february/rb2.html

Robinson, A. M. L. A. M. L. (1966). *Systematic bibliography; a practical guide to the work of compilation*. [Rev. ed.]. Hamden, CT: Archon Books.

Rodewald, A. D. (2001). Delivery systems-Is the latest technology the greatest? *Journal of Extension* [On-line], 39(4). Available at: http://www.joe.org/joe/2001august/tt2.html

Scholl, J. (1994). Developing 4-H curriculum on an electronic database. *Journal of Extension* [On-line], 32(2). Available at: http://www.joe.org/joe/1994august/a7.html

Shih, W.Y., & Evans, J. F. (1991). Where field staff get information. *Journal of Extension*, [On-line], 29(3). Available at: http://www.joe.org/joe/1991fall/a5.html

Siegrist, H., Labarge, G., & Prochaska, S. (1998). Using electronic media to convey timely information. *Journal of Extension* [On-line], 36(5). Available at: http://www.joe.org/joe/1998october/iw1.html

Swann, D. L., & Einstein, M. (2000). User analysis and future directions of the Web-based Aquaculture Network Information Center. *Journal of Extension* [On-line], 38(5). Available at: http://www.joe.org/joe/2000october/iw2.html

Taylor, M. C., & Curtis, P. A. (1999). Development and design of a gateway to food safety information on the Internet for extension educators. *Journal of Extension* [On-line], 37(2). Available at: http://www.joe.org/joe/1999april/a5.html

Walker, R. C., & Holden, L. A. (2000). Survey results from users of a dairy management Web site. *Journal of Extension* [On-line], 38(1). Available at: http://www.joe.org/joe/2000february/tt1.html

Wang, P., Tenopir, C., Layman, E., Pennlman, D., & Collins, S. (1998.) An exploratory study of user searching of the World Wide Web: A holistic approach. In *Proceedings of the 1998 ASIS Annual Meeting*, 35:389-399.

Webster, J. G. (2003) How to create a bibliography. *Journal of Extension* [On-line], 41(3). Available at: http://www.joe.org/joe/2003june/tt1.shtml

Westbrook, L. (1995.) User needs. In *Encyclopedia of library and information science*, 59 (supplement 22): 316-347.