

# INCORPORATING INFORMATION LITERACY INTO CONSERVATION: SEARCHING BEYOND GOOGLE

Red Wassenich  
Austin Community College  
Austin, Texas  
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## What is “information literacy”?

The ability to recognize the need for information and the abilities to locate, evaluate, and use information.

## SURVEY OF CONSERVATORS ON THE LISTSERV - 22 RESPONSES

### Specialty:

Book 6	Paper 5
Objects 1	Textile 1
Paleontology 1	Conservation Education 1
Archaeology 4	Architecture 2

## How You Regularly Do Research

### Go to a library and use print resources

- Always = 2
- Usually = 4
- Sometimes = 8
- Rarely = 7
- Never = 0

### Use web by going to known sites

- Always = 10
- Usually = 5
- Sometimes = 5
- Rarely = 1
- Never = 0

### Use web by using search engines

- Always = 8
- Usually = 8
- Sometimes = 2
- Rarely = 2
- Never = 1

### Use specialized subscription databases

- Always = 6
- Usually = 4
- Sometimes = 7
- Rarely = 1
- Never = 2

### Communicating with colleagues (talking, e-mail, listservs, etc.)

- Always = 7
- Usually = 4
- Sometimes = 9
- Rarely = 1
- Never = 0

### Other

- Personal collection (mainly conference and workshop notes) = 4

## **Familiarity with Search Techniques**

### Boolean operators (AND, OR, NOT)

- Very familiar = 8
- Somewhat familiar = 12
- Not familiar = 0
- Don't know what this means = 1

### Phrase searching

- Very familiar = 8
- Somewhat familiar = 10
- Not familiar = 2
- Don't know what this means = 1

### Advanced features of search engines

- Very familiar = 7
- Somewhat familiar = 12
- Not familiar = 2
- Don't know what this means = 1

## **Problem Areas in Research**

### Physical / chemical information about an object or substance

- Always difficult = 1
- Usually difficult = 7
- Sometimes difficult = 10
- Rarely difficult = 4

### Information on proprietary substances

- Always difficult = 6
- Usually difficult = 7
- Sometimes difficult = 7
- Rarely difficult = 1

### Finding experts on an object or treatment

- Always difficult = 1
- Usually difficult = 2
- Sometimes difficult = 15
- Rarely difficult = 4

### Finding general history relating to an item (e.g., did certain group use a particular material)

- Always difficult = 0
- Usually difficult = 7
- Sometimes difficult = 11
- Rarely difficult = 3

### Other Consistent Problems

- Not enough time (4 responses)
- Hard to get to obscure sources (3 responses)
- What formulations / treatments were used at given times (2 responses)

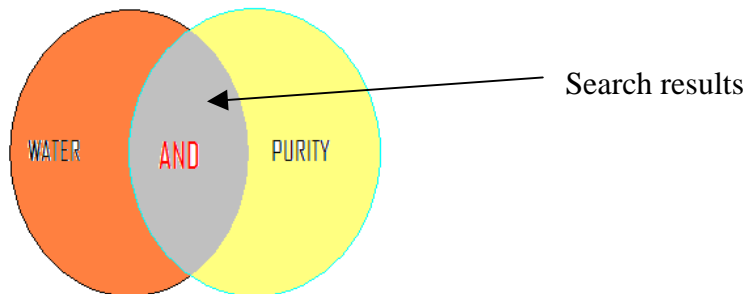
## APPROACHING RESEARCH QUESTIONS

- What is really needed?
  - For example, if you need information on the material, don't get lost in the history of the object, although that of course is useful.
- What is the time period?
- What are the keywords and synonyms?
- Is geography and/or foreign languages a possible factor?
- “Who gives a damn?” & “Money leaves a slimy trail.” (Susan Ardis, University of Texas librarian)
  - Think about those outside conservation who might be interested in the problem, especially those with financial interests.
- **TALK TO A LIBRARIAN!** Get to know a reference librarian and let them know specifically what you need and give them time, if possible, to research things.

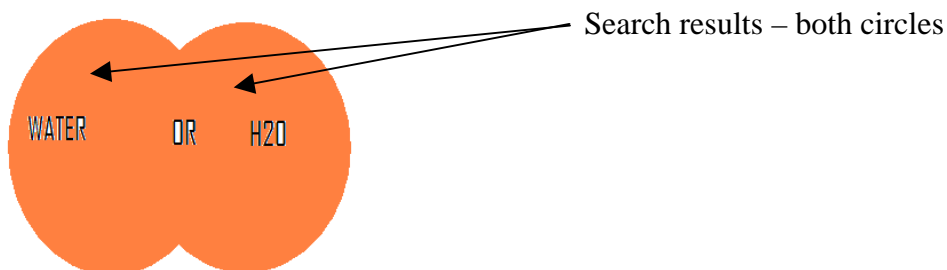
## ONLINE SEARCH TECHNIQUES

### Boolean Operators

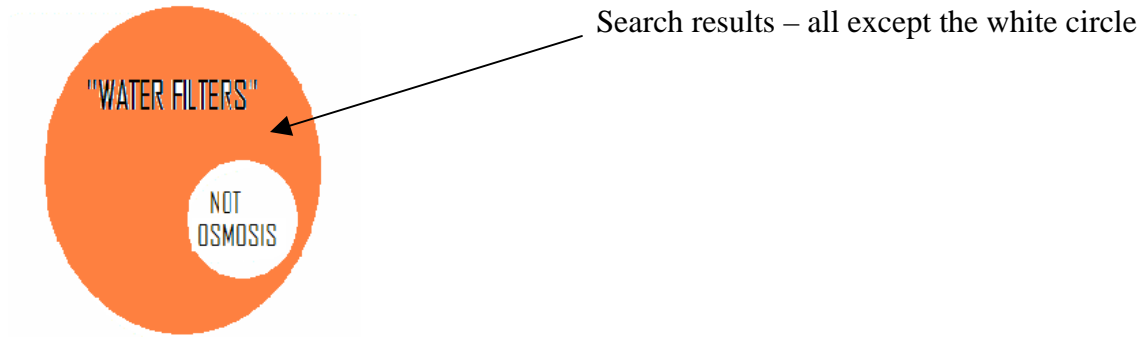
AND - Combines ideas; gets fewer, more focused results.



OR allows simultaneous searching of synonyms or word variations.



NOT eliminates words or phrases that are causing unwanted results.



### Phrase Searching

When the search term is more than one word in exact order. Usually use quotation marks to indicate. Example: “water purification”

### Truncation / Wildcards – do not work on Web search engines

Addition of a special symbol (often \* or ?), which allows word variations to be searched.

Truncation goes at end of word; usually used to find singular and plural: *purif\** would retrieve *purify* & *purification*

Wildcards find variations within words: *col\*r* would get both *color* & *colour*

### Nesting - Different search engines use different protocols

Combines the various search techniques.

(“water purifi\*” OR “water filtration” OR “water filter\*”) AND effectiveness  
NOT ioniz\*

Google: “water purification” OR “water purifiers” OR “water filtration” OR  
“water filters” effectiveness -ionizing

## SEARCH ENGINES – HOW THEY WORK AND ARE DIFFERENT

Spiders or robots crawl the web, going from one link to the next, saving the pages to the search engine’s computers. These are analyzed when you do a search. But you link to the actual current page.

Google refreshes its saved pages every 2-3 weeks, approximately.

In Google, the results are listed mainly based on how popular a web page is--how many other pages link to it. For conservation questions, how big a factor is popularity?

## Different Search Engines Get Different Results

Searched for: water and purity and (ionizing or ionization)

- Google 28,000 (4/9/04) 25,800 (5/10/04)
- Altavista 67,375 (4/9/04) 67,344 (5/10/04)
- Alltheweb 61,271 (4/9/04) 70,109 (5/10/04)

Only one of the first 20 results from Google showed up in Altavista (Google #8 was #1) and in Alltheweb (Google #8 was #2 on Alltheweb)

Altavista and Alltheweb shared 10 results.

Where results came from:

- Google: 18 .com, 1.net, 1.edu
- Altavista: 13 .com, 5 .gov (all from same site), 2 .org
- Alltheweb: 9 .com, 1 .info, 3 .gov, 2 .org, 2.de (both from same nonprofit site), 1 .sk, 1 .br

When reading Google search results, be sure to pay attention to the “More results from...” line; it can lead to many additional results.

### [Air-Purifiers.Net--HEPA Air Cleaners](#)

... atomic bomb. The first **HEPA air filters** were very bulky compared to the **HEPA air filters** that are produced today. **HEPA filter** technology ...  
[www.aircleaners.com/hepahistory.phtml](http://www.aircleaners.com/hepahistory.phtml) - 16k - [Cached](#) - [Similar pages](#)  
[ [More results from www.aircleaners.com](http://www.aircleaners.com) ]



## GOOGLE (AND OTHER SEARCH ENGINES) ADVANCED SEARCHING

“Occurrences” and “Domain” are generally most useful ways to limit searches.

“**Occurrences**” – use “Title of page” to get much more focused results. The search word(s) must be in the title of the page.

“**Domain**” – use to limit to or eliminate certain kinds of results. Examples: eliminate .com results or only search within a specific web site, e.g., only search the Getty web site.

## GOOGLE WEB ALERTS

[Google Web Alerts](http://www.google.com/webalerts) - www.google.com/webalerts - Current awareness service. Get e-mails when new pages are posted that match your keywords.

## ALTERNATIVES TO GENERAL SEARCH ENGINES

### GENERAL EXAMPLES

- CoOL – Conservation OnLine - [palimpsest.stanford.edu](http://palimpsest.stanford.edu)
- AATA – Abstracts of International Conservation Literature - [aata.getty.edu/NPS](http://aata.getty.edu/NPS)
- CAMEO - Conservation and Art Material Encyclopedia Online - [www.mfa.org/cameo](http://www.mfa.org/cameo)
- Scirus – Science search engine that search 160,000 science sites plus several journal sources - [www.scirus.com](http://www.scirus.com)

### SPECIALIZED WEB SOURCES

Normal search engines will **not** locate the specific portions within these resources.

### SOME EXAMPLES...

- Chemweb.com – Requires free registration
- ChemFinder.com
- SpecialChem Adhesives & Sealants - [www.specialchem4adhesives.com](http://www.specialchem4adhesives.com)
- SpecialChem Polymers & Colors - [www.specialchem4polymers.com](http://www.specialchem4polymers.com)
- Book History Online - [www.kb.nl/bho](http://www.kb.nl/bho)
- Household Products Database - [householdproducts.nlm.nih.gov](http://householdproducts.nlm.nih.gov)
- Nazi-Era Provenance - [www.nepip.org](http://www.nepip.org)
- Ask Art - [www.askart.com](http://www.askart.com)

### PATENT INFORMATION

U.S. Patent and Trademark Office – [www.uspto.gov](http://www.uspto.gov)

Tutorial on using this site - [www.lib.utexas.edu/engin/patent-tutorial/index.htm](http://www.lib.utexas.edu/engin/patent-tutorial/index.htm)

### SUBSCRIPTION DATABASES

Advantages: More reliable, focused results, kept updated.

Disadvantages: Must get access via a library. Searching techniques vary from one to the next.

### A SAMPLING...

- Chemical Abstracts – periodical citations back to 1907
- Design & Applied Arts Index – periodical citations back to 1973
- Index to 19th Century American Art Periodicals  
SCIPIO: Art and Rare Book Sales Catalogs
- Kirk-Othmer Encyclopedia of Chemical Technology Online – in print, 27 volumes
- ASM (American Society for Metals) Handbooks Online – 20 print volumes
- Knovel Critical Tables - 13,000 inorganic and organic compounds and pure substances and 385 solvents

DIALOG – [www.dialog.com](http://www.dialog.com)

Hundreds of databases, often quite technical and specific.

Searching is expensive and search techniques are arcane. Get help from a librarian.

Examples:

- Polymer Online
- PIRA (Packaging, Paper, Printing and Publishing, Imaging and Nonwovens Abstracts)
- World Textiles

## **PRINT SOURCES**

There are thousands of print sources, books, periodicals, conference proceedings, etc.—including new sources--that are not available online.

- LibWeb - [sunsite.berkeley.edu/Libweb](http://sunsite.berkeley.edu/Libweb) – access to the world’s library catalogs
- OCLC First Search – subscription database: books, periodicals, proceedings, ...
- Full-text periodical databases – example: *Academic Search Premier*, over 4000 full-text periodicals and 4000 more with citations and abstracts, usually going back 10 years.

## **FINDING EXPERTS**

- Use bibliographies
- Special Libraries Association ([www.sla.org](http://www.sla.org)) and American Library Association ([www.ala.org](http://www.ala.org))
- *Encyclopedia of Associations* (print) or *Associations Unlimited* (subscription database version)

## **THE FUTURE?**

- “Federated Searching” – cross-database searches
- “Everything on the web” – not really, but more will be, including retrospective digitization
- Intelligent search engines – will know what you usually look for
- More subject-specific portals (perhaps a role for AIC)

Red Wassenich  
Austin Community College  
1212 Rio Grande  
Austin, TX 78701

512 223-3074  
[redwass@austincc.edu](mailto:redwass@austincc.edu)