Literature Reviews: Know Your Options

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Office of Graduate Professional Development, 2/9/2021
Congratulations!!

For taking time to invest in you!

More about me: https://guides.uflib.ufl.edu/stapleton
Workshop Logistics

- Chat will be monitored
- Poll responses will be anonymous
- There will be several pauses for Q&A
- Presentation slides will be available after the session
Workshop Objectives

- Describe the purpose of literature reviews
- Understand main differences in various types of reviews
- Identify library resources useful to writing reviews
What is a literature review?

A summary of existing knowledge on a topic with an original point of view that contributes to the advancement of knowledge on that topic.
A literature review...

- Defines & clarifies what is known
- Identifies relationships & inconsistencies
- Proposes areas for future research

provides context to your research topic
Points to address in a literature review

• Why is this topic important? What new insights do you offer? Does your review help to define, illustrate or advance theory on the topic?
• Specify your point of view (thesis, argument) in the introduction
• Explain why you describe some publication findings as strong and others as weak
• Identify the major patterns or trends in the literature
• Identify classic or landmark studies and describe their relationship to subsequent studies
• Describe any pertinent controversies or inconsistencies
• Note and explain any gaps in the literature. What areas need more research?
• Clearly describe or discuss implications in your conclusions
• Is your manuscript coherent, do you have a clear path of your argument?

Questions?
Summary of Steps for a Literature Review

- Identify your topic
- Develop appropriate search terms
- Identify appropriate databases to search
- Conduct literature searches
- Collect relevant results
- Skim & categorize
- Read in-depth & take notes
- Synthesize results
- Outline & Write
- Review & Revise

Good Resource: Tips for writing your first scientific literature review article by E. Crawford, 12/1/2011,
https://www.asbmb.org/asbmb-today/careers/120111/writing-a-scientific-literature-review-article
Identify the Main Research Concepts in Your Research Question

Q1. Do people who begin smoking as teens have a greater risk of developing cancer than people who start smoking later in life?

Q2. Will release of sterile male psyllids, the insect vector of citrus greening, reduce the spread of this disease?
Develop appropriate search terms for each of your key research concepts

<table>
<thead>
<tr>
<th>Keywords</th>
<th>Concept #1</th>
<th>Concept #2</th>
<th>Concept #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative Terms (Synonyms)</td>
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<tr>
<td>Broader Terms</td>
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<tr>
<td>Narrower Terms</td>
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<tr>
<td>Relevant Databases</td>
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</tr>
</tbody>
</table>
Be aware how others may describe a topic
Will the release of sterile male psyllids, the insect vector of citrus greening, reduce the spread of this disease?

<table>
<thead>
<tr>
<th>Keywords</th>
<th>sterile male</th>
<th>psyllid</th>
<th>citrus greening</th>
<th>disease spread</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternative Terms</strong></td>
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<td><strong>Broader Terms</strong></td>
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</tbody>
</table>

- **Keywords**: sterile male, psyllid, citrus greening, disease spread
- **Alternative Terms (Synonyms)**: Huanglongbing (HLB)
- **Broader Terms**: Citrus bacterial disease, Vector-transmitted pathogen
- **Narrower Terms**: Proteobacteria, Phloem-restricted bacteria, Candidatus Liberibacter
- **Relevant Databases**: CAB Abstracts, Web of Science, Biosis, Citrus Greening Database
Locate Recommended Databases for Your Topic

https://uflib.ufl.edu/find/research/
Tips:

- Remember to use the VPN! When you are off-campus, use the VPN to get full access to library resources.

- Learn how to use 2-3 of the subject databases from tutorials or workshops and exploring. These are powerful tools that can lead to more efficient literature searching.

Library Workshop Registration
https://uflib.ufl.edu/my-accounts/workshop-registration/
Collect Publications from Your Searches

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**Citation Management Comparison Chart**

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>ENDNOTE</th>
<th>MENDELEY</th>
<th>SCIWHEEL</th>
<th>ZOTERO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>EndNote Web is Free to UF; EndNote Desktop is not</td>
<td>Free</td>
<td>SciWheels is Free to UF</td>
<td>Free</td>
</tr>
<tr>
<td>Desktop Version</td>
<td>Yes, but not free</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Web Importer</td>
<td>No</td>
<td>Yes</td>
<td>Word, Google Docs</td>
<td>Yes</td>
</tr>
<tr>
<td>Citation Plug-in</td>
<td>Word</td>
<td>Yes</td>
<td>Word Docs</td>
<td>Yes, Word, Google Docs, LibreOffice</td>
</tr>
<tr>
<td>PDF Annotation</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Special Features</td>
<td>Intuitive interface</td>
<td>Full desktop drag and drop PDF to create citations</td>
<td>Google Docs plugin, Notes attached to group</td>
<td>Group Libraries to share citations, ZoteroLib for quick bibliography</td>
</tr>
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Questions?
Types of Literature Review

- Annotated Bibliography
- Traditional ("Narrative")
Annotated Bibliography

A list of references that includes a summary or evaluation of each source.

Annotations typically include:
• Summary: what is the source about?
• Assessment: Is the source credible?
• Reflection: How does the source impact your research topic?

Good resource: Purdue Online Writing Lab: https://owl.purdue.edu/owl/general_writing/common_writing_assignments/annotated_bibliographies/index.html
Traditional (Narrative) Literature Review

A narrative examination of recent literature.

May or may not include comprehensive searching and quality assessment of results.

Typically tells a story of prior research, organized chronologically. Often divided into sub-topics.
Comparing the Annotated Bibliography to the Literature Review

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Annotated Bibliography</th>
<th>Literature Review</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Provides the reader with an ordered list of sources for additional reading. Usually also provides brief explanations of why each source is credible and relevant to the topic.</td>
<td>Provides an overview of a particular topic or problem by summarizing and explaining the most significant sources in the field.</td>
</tr>
</tbody>
</table>

| Structure | Sources are separated from each other and are arranged alphabetically, so they will be easy to locate. | Sources are integrated into paragraphs based on the progression of the topical overview, and they may be mentioned more than once. |

| Components | Each item in the list uses the formal citation style (usually APA, MLA, or Chicago) to cite a single source and includes a short paragraph with a summary explaining its credibility and relevancy. | Uses an introduction to explain the topic, synthesizes sources progressively as the topic is explained through the body, and then concludes by summarizing the overall background presented. |
Types of Literature Review

- Annotated Bibliography
- Traditional ("Narrative")

- Scoping Review
- Systematic Review
- Meta-analysis
- ...and more...

Critics: informal, subjective, not reproducible

Evidence-based syntheses: Structured, comprehensive, reproducible.

Aim “to reduce the likelihood of being misled by biases and chance”

Modern Types of Literature Reviews: Evidence-based Synthesis

Increasingly, literature reviews use reproducible methodologies to decrease statistical imprecision and to reduce bias.
Scoping Review

Preliminary review to map key concepts, types of evidence, and gaps in research related to a topic.

Typically, follows a set of standards, uses a broad topic & search terms. Often used to determine whether a subsequent systematic review is feasible.
Systematic Review

A systematic review is a review of evidence relevant to a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant research, and to collect and analyze data from the studies included.

- Collaboration for Environmental Evidence

Meta-analysis

A quantitative estimate for the effect of a treatment based on statistical analysis of previously published data from multiple studies

Typically begins with a systematic review.

Rapid Review

A time-limited review of published evidence, using systematic review methods.

Frequently used for policy development.
Questions?
Your Next Steps

Develop your literature review plan:

• What is your research question?

• What are the characteristics of the studies you want to include in your review?

• What are your goals (e.g. timeframe, types of conclusions)?

• What type of review is appropriate?
What Kind of Review Is This?

• Look for type of review in article label, title, abstract, and keywords.
• Read the Methods section: is the literature review structured, explained, and reproducible?
• Databases are developing new filters to find evidence-based syntheses (e.g. search for meta-analysis)
Sample Reviews

New Plant Breeding Techniques in Citrus for the Improvement of Important Agronomic Traits. A Review

New plant breeding techniques (PBTs) aim to overcome traditional breeding limits for fruit trees, in order to obtain new varieties with improved agronomic traits and resistance to biotic and abiotic stresses, and to maintain fruit quality and good agronomic characteristics by (staged) selection. Knowledge on the genetics controlling a specific trait is essential for the use of PBTs, such as genome editing and CRISPR-Cas9 genome editing. The framework of the International citrus committee working on fruit tree species, including citrus, PBTs have mainly been applied to address pathogens, Citrus could take advantage of PBTs because of its complex polyphyletic evolution, apomixis, high heterozygosity, and long generation phase, and applied for in vitro manipulation. To our knowledge, genome editing in citrus via homologous recombination for introgress resistance to Citrus bacterial leaf blight (Xanthomonas citri) and citrus greening disease (E. ulmi) is not yet available. In the future, PBTs will also be used to improve fruit traits, making them healthier. The regeneration of plants following the application of PBTs is a bottleneck, making it necessary to optimize the efficiency of current protocols. The strengths and weaknesses of using somatic plants from young in vitro plants, and from mature plants, will be discussed. Other major issues addressed in this review are related to the requirements for better systems and printing the long generation phase. This review aims to summarize methods and approaches available in the literature that are suitable to citrus, focusing on the principles observed before the use of PBTs.

Environmental Evidence

SYSTEMATIC REVIEW

Are small protected habitat patches within boreal production forests effective in conserving species richness, abundance and community composition? A systematic review

Aaron Johnson, Toref S. Sandgren, Anne Uotila, Mikko Maikkalan, Poul Puntinen, and Sami Solonen

Abstract

In boreal forest management is changing and degrading forest habitats, which has caused declines in biodiversity. To mitigate these threats, efforts are focused on producing small-scale habitats with high biodiversity values that have been preserved and made available. These habitats include food-supplemented habitats, and other small habitat patches populated by wildlife in wildlife actions. In the systematic review, we synthesize the evidence on the value of small protected habitat patches (SHPs) within production forests with data for boreal forests. Review questions were: Are small protected habitat patches within the boreal production forests effective in conserving species richness, abundance, and community composition?

Methods

Both peer-reviewed and grey literature were searched from biological databases, organizational websites, and internal search engines in English, French, Swedish, and Russian. Articles were searched for using the following DORIS abstract and full text, and the validity of the included studies were assessed. Screening and quality assessment were based on predetermined criteria. After data extraction, narrative and quantitative analyses were conducted. Meta-analyses of effect sizes were found, and sensitivity analyses were conducted.

Results

During the search, most articles were found. Most studies included randomized controlled trials, and intervention studies were included. The majority of SHPs were operated in temperate boreal forests, and the highest protection levels were compared to control forests. When compared to natural forests, there was no significant difference. Forest management in, and surrounding SHPs, did not have an impact on species richness of these patches. Individual abundance was significantly higher in SHPs compared to natural or production forests. However, this was not true for all species. Overall, there was a significant effect of SHPs compared to production forests, but when compared to natural forests, there was no significant difference. Community composition was different between SHPs and both production and natural forests.

https://doi.org/10.1186/s13750-020-00216-6
Sample Review Diagram in Systematic Review

Figure 1. Flow chart of the study selection.
Resources

- Library collections

- Your subject-specialist librarian

- Library Research Guides for your field
  https://uflib.ufl.edu/find/research/

- Systematic Review Support:
  Tools such as Covidence and Rayyan
  Workshops at https://uflib.ufl.edu/my-accounts/workshop-registration/
  Patti McCall-Wright, CTSI
  https://guides.uflib.ufl.edu/SR

- UF Writing Program at https://writing.ufl.edu/writing-studio/
Review of Topics Covered

- Describe the purpose of literature reviews
  - To contextualize new knowledge within what is known
  - Evidence-based synthesis types also aim to reduce bias and chance
- Understand main differences in various types of reviews
  - Annotated bibliography, traditional narrative review and evidence-based syntheses (systematic review, scoping review, meta-analysis, rapid review)
- Identify library resources useful to writing reviews
  - Librarians are here to help!
Ask-A-Librarian

https://uflib.ufl.edu/find/ask/

Text Us
Text us at 1-813-463-2283

Call
Call a reference librarian at (866) 281-6309

Chat
Mon – Thurs: 8am – 9pm
Fri: 8am – 5pm
Sat – Sun: 9am – 1pm

Email
Email us – we try to respond in a few hours!


Thank you!

Please complete your workshop evaluation.