How To Write a Scientific Paper that People Will Want to Read (and Cite!)

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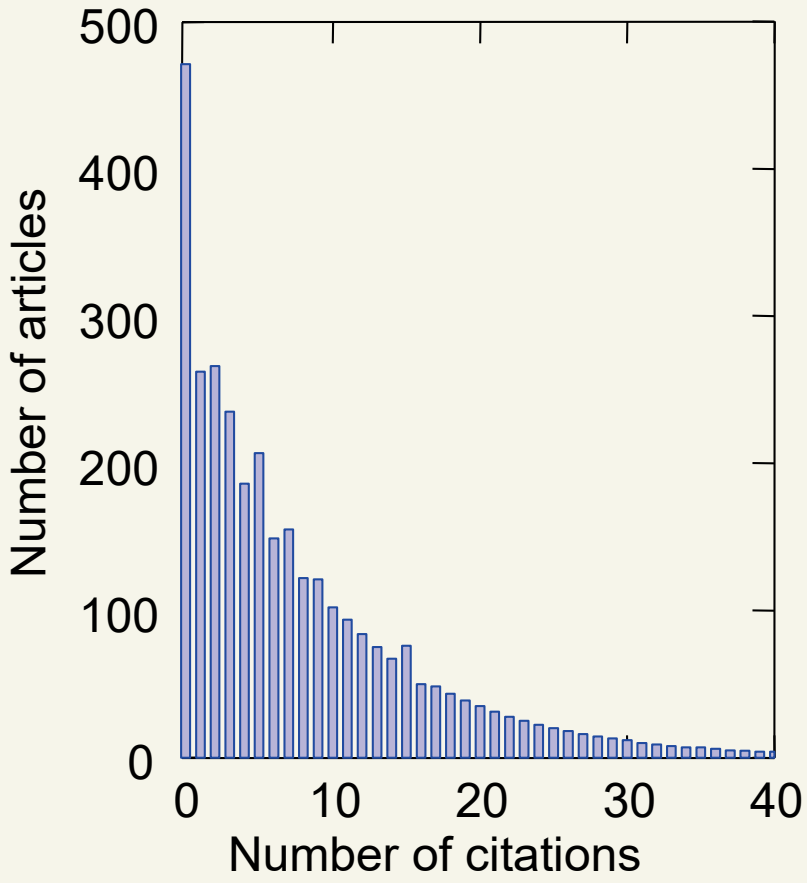
(So, you think you can write, eh?)


Functional Ecology
British Ecological Society
Functional Ecology 2016, 30, 1558–1567
doi: 10.1111/1365-2435.12632
Reconciling contradictory relationships between mobility and extinction risk in human-altered landscapes
Amanda E. Martin* and Lenore Fahrig
Wetlands (2016) 36:731–744
DOI 10.1007/s13157-016-0781-4
ORIGINAL RESEARCH
Different Anuran Species Show Different Relationships to Agricultural Intensity
Alex Koumaris[1] · Lenore Fahrig[1]

Number of citations 2002-2007

of papers published in ecology in 2002



compiled by D. Currie

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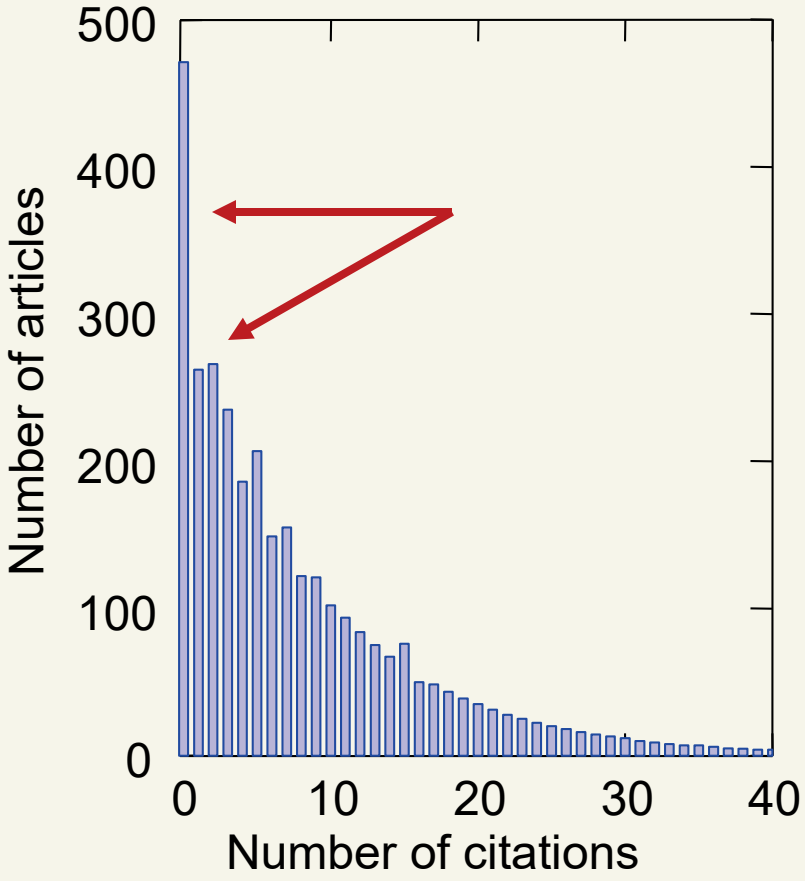
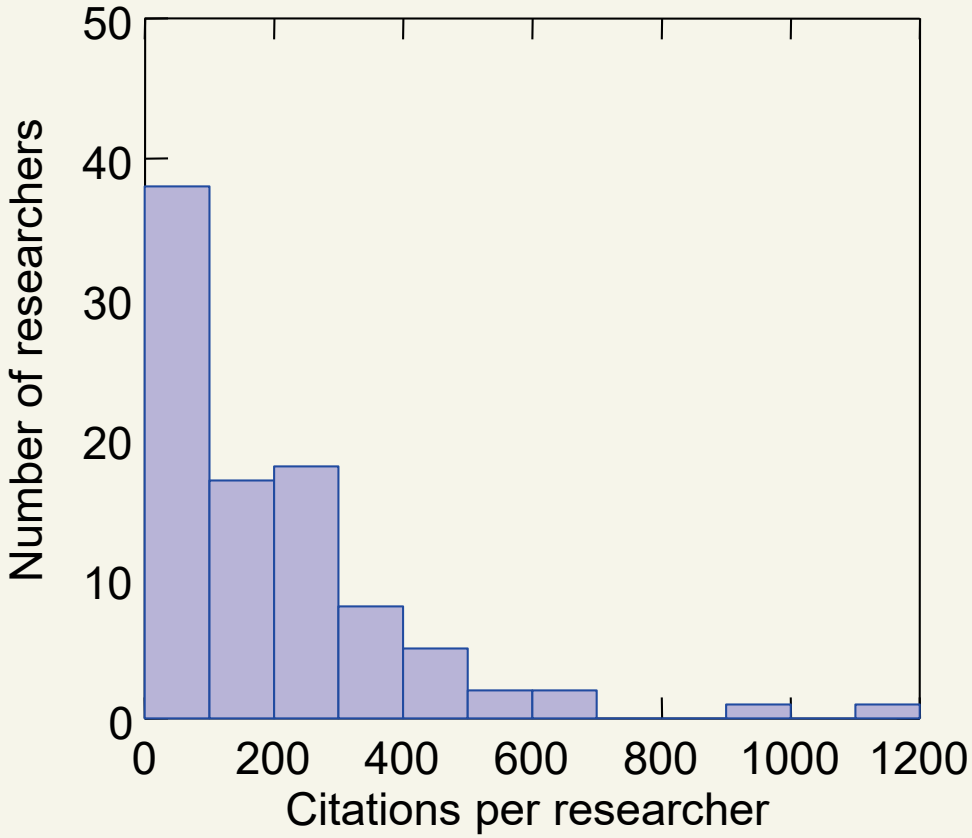


Most papers are never cited or only self-cited.

Number of citations 2000-2005 of 1998 NSERC ecology grant-holders



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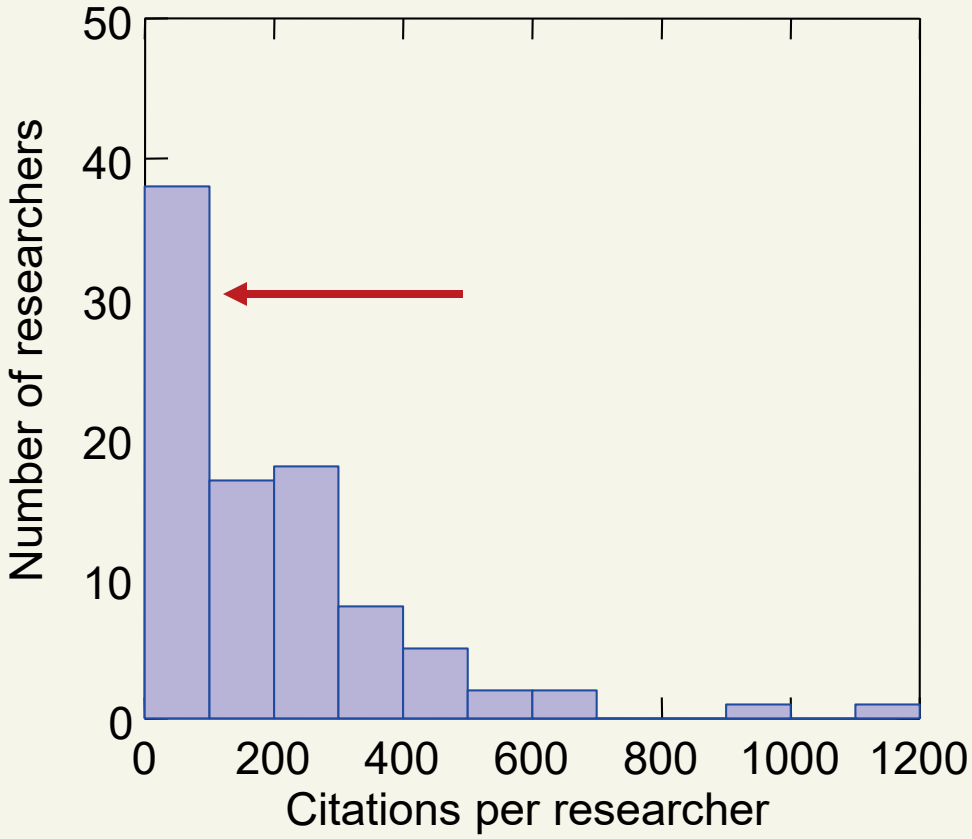

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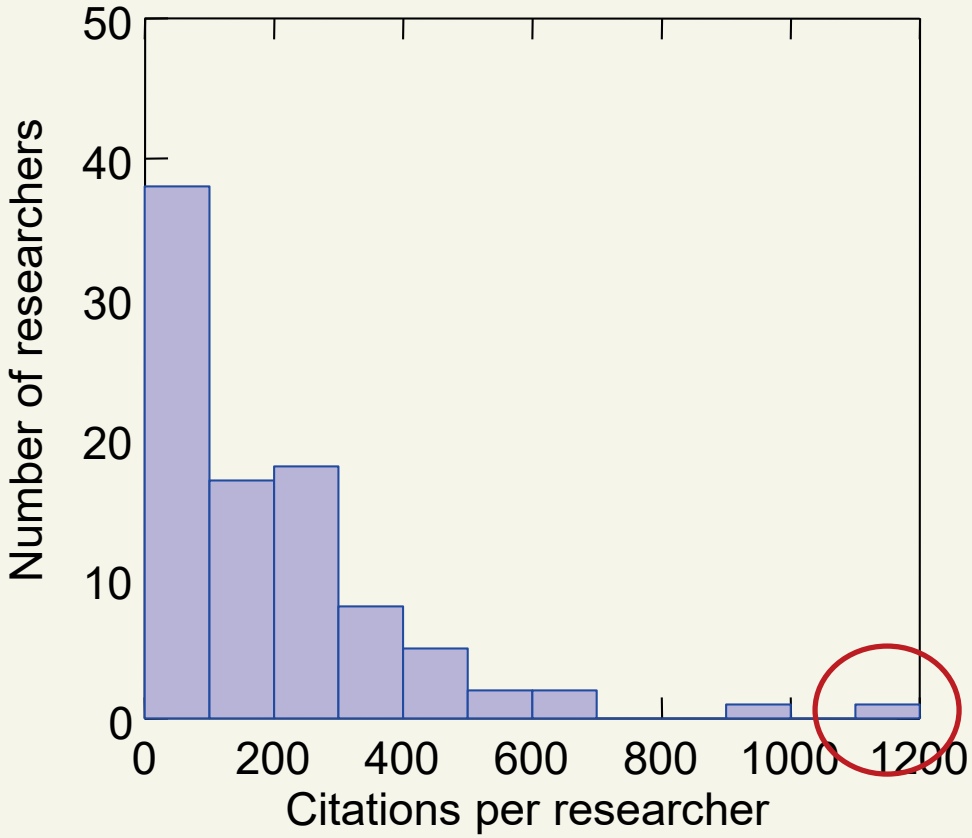

As of Jan 2017: **>28,000** (GS)

REMEMBER:

No-one HAS to read your paper.

You have to make people WANT to read it.

You've got the data, so now how do you write the paper?

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Writing well takes time.

Don't leave it to the last minute (or week, or month).

Strategy

Structure

Style

Strategy

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Style

Part 1: Working out the Message

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- **Make the figures and tables.**

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- Make the figures and tables.
- **Write down the take-home message.**

Strategy: Steps to Success

Side Issue #1

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The take-home message is the thing someone will remember about your paper >2 years after they read it, if they remember your paper at all.

The take-home message should be supported by a memorable figure.

A take-home message is usually more than just a result.

Side Issue #1

What is a take-home message?

Example:

Result

The scale of effect was smaller when the response variable was population abundance than when the response variable was species' occurrence.

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The scale of effect was smaller when the response variable was population abundance than when the response variable was species' occurrence.

Take-home message

The landscape context is larger if we are managing for population persistence than if we are managing for population size.

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- **Revise take-home message (and figures/tables if needed).**

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- **Iterate as many times as needed.**

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- **Write out predictions.**

Strategy: Steps to Success

Side Issue #2

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To make sure you are not HARKING.

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To make sure you are not HARKING.

HARK = Hypothesize After Results are Known. Don't do this.

Also, the prediction you made BEFORE you knew your results is the same prediction your readers will make, so it's easier to sell to them.

Strategy: Steps to Success

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Part 2: Production Mode

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- **Quickly outline the paper (2 hours) – topic sentences only.**

Side Issue #3

Why should you make an outline ?

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To save time and agony.

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To save time and agony.

Outlining forces you to figure out the best ORDER for saying things, and what to include and what NOT to include.

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- **Revise Outline and iterate as many times as needed.**

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- **Write Methods and Results.**

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- **Revise Methods and Results and write Introduction.**

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- Revise Methods and Results and write Introduction.
- **Update literature search and revise Introduction.**

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4. **The thing you are interested in may not be of interest *to the author*, so not included in the title, abstract or key words.**

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How to do a thorough literature search (Web of Knowledge)

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5. **Also check its references for possible papers.**

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6. **Repeat steps 1-5 until you are not finding any new papers on topic.**

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6. Repeat steps 1-5 until you are not finding any new papers on topic.
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6. Repeat steps 1-5 until you are not finding any new papers on topic.
7. **Look up the citation rates of the papers you have found, to find out which of them are 'seminal'. Check the papers that cited these.**

Note, step 7 is critical, due to problem 4 - The thing you are interested in may not be interesting *to the author*, so not included in the title, abstract or key words.

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- Make the figures and tables.
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- Do something else for a while (1+ days).
- Revise take-home message (and figures/tables if needed).
- Do something else for a while (1+ days).
- Iterate as many times as needed.
- Write out predictions.

Part 2: Production Mode

- Quickly outline the paper (2 hours) – topic sentences only.
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- Revise Methods and Results and write Introduction.
- **Update literature search and revise Introduction.**

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- **Write Discussion.**

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- **Update literature search and revise Discussion.**

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- **Write Abstract.**

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- Write Abstract.
- **Revise Abstract and write Title and Key Words.**

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"I am going to bring the printed output sheet from SPSS to your office so we can make sure I am interpenetrating it correctly."

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which is NOT recommended because:

1. **It's hard to give up those hard-won paragraphs (or even sentences).**
2. **Random paragraph rearrangement -> extreme confusion.**
3. **Once it gets too jumbled, I will ask you to start all over again, starting with an outline.**

Strategy

Structure

Style

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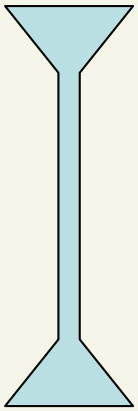
Structure:
Flow-through Logic



Introduction

Methods

Results

Discussion

Structure:
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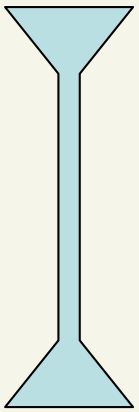


Introduction

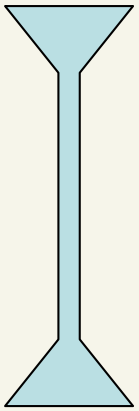
Methods

Results

Discussion

hypothesis 1
hypothesis 2
...

Structure:
Flow-through Logic



Introduction

Methods

Results

Discussion

hypothesis 1
hypothesis 2
...

prediction 1
prediction 2
...

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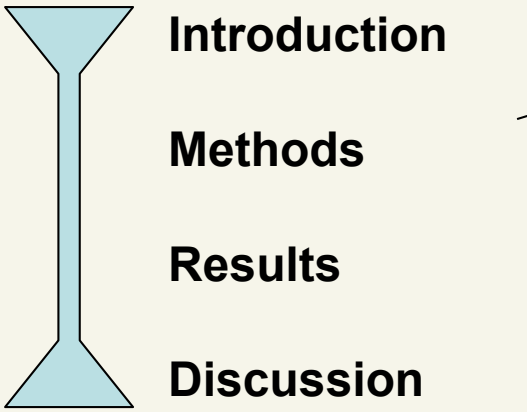


Introduction

Methods

Results

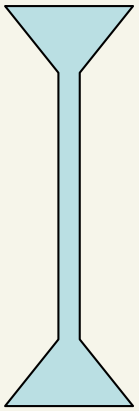
Discussion

hypothesis 1
hypothesis 2
...

prediction 1
prediction 2
...

analysis for p1
analysis for p2
...

Structure:
Flow-through Logic



Introduction

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Results

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hypothesis 1
hypothesis 2
...

prediction 1
prediction 2
...

analysis for p1
analysis for p2
...

results of p1
results of p2
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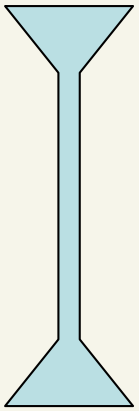

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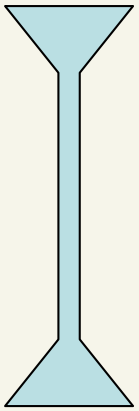

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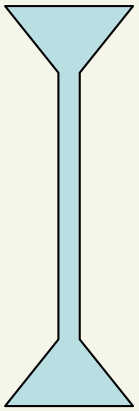

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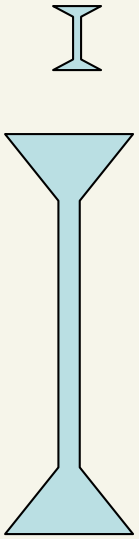

Abstract

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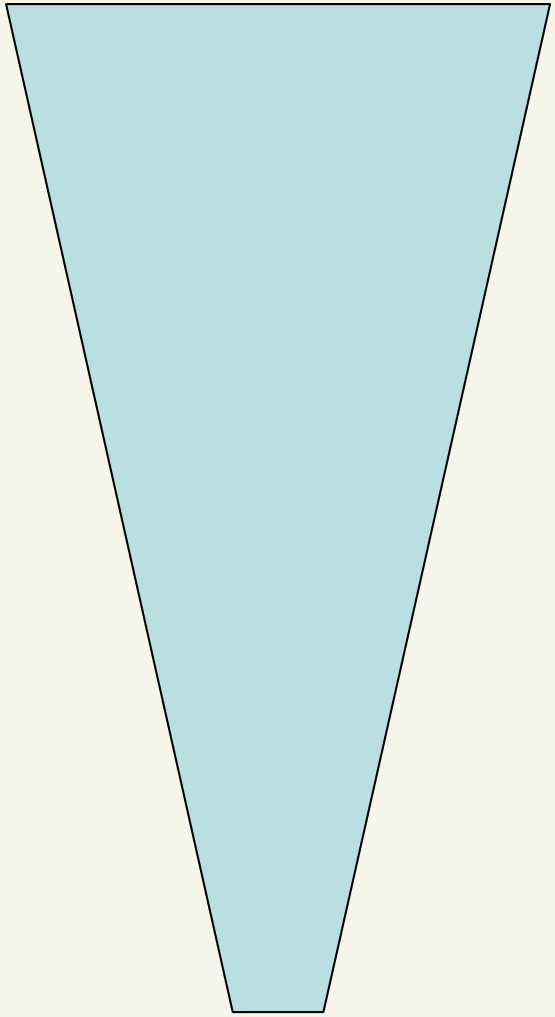
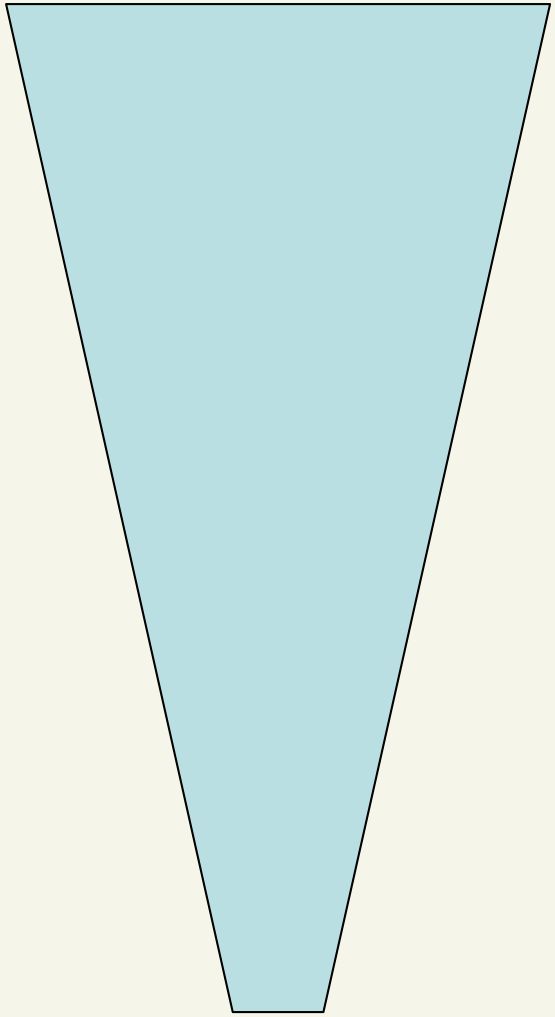


Structure of Introduction

General issue leading to...



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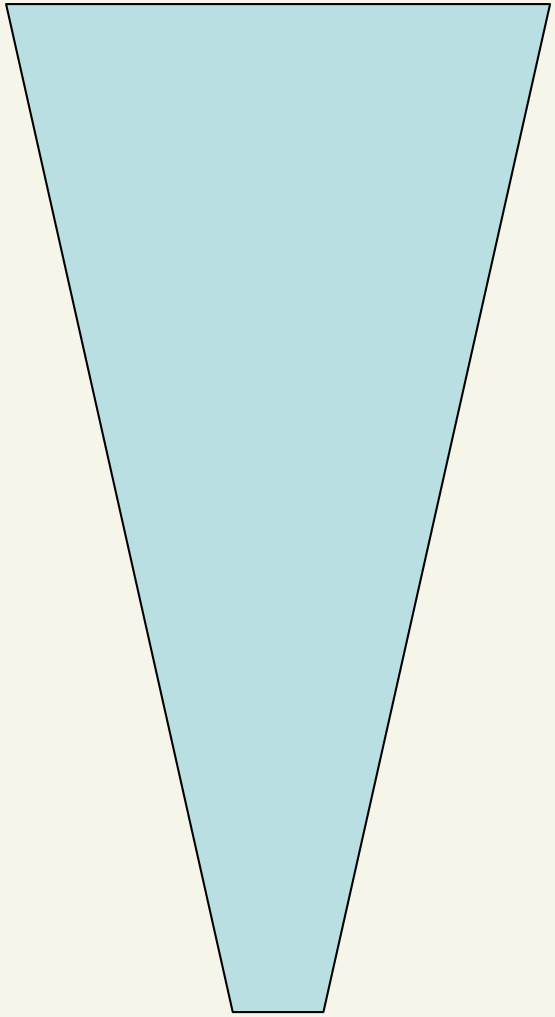

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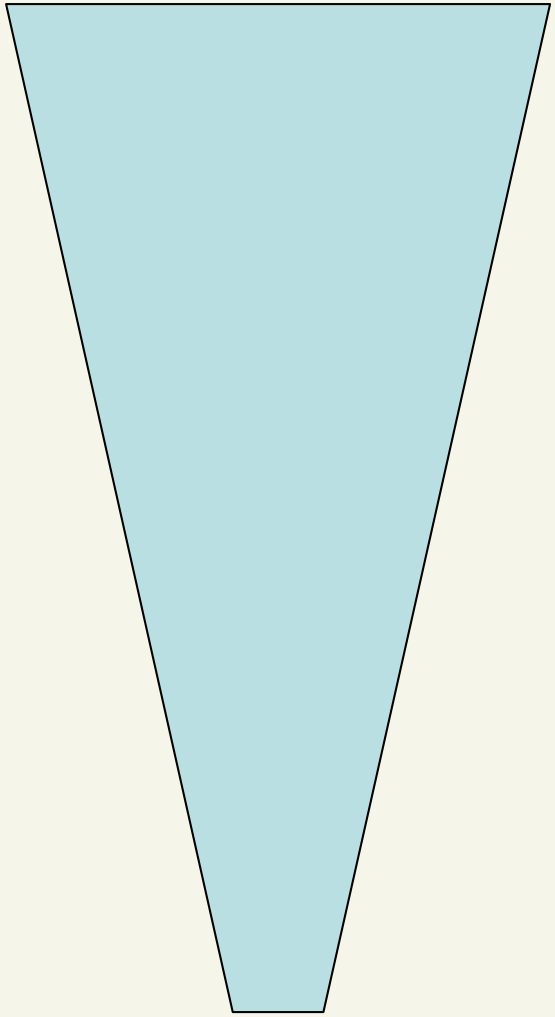
Song birds are declining; we need management



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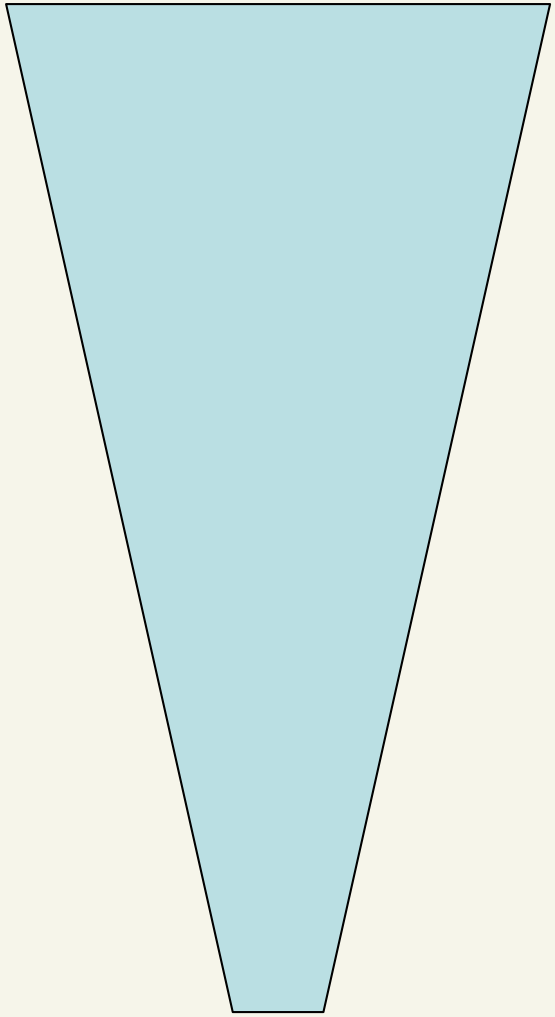

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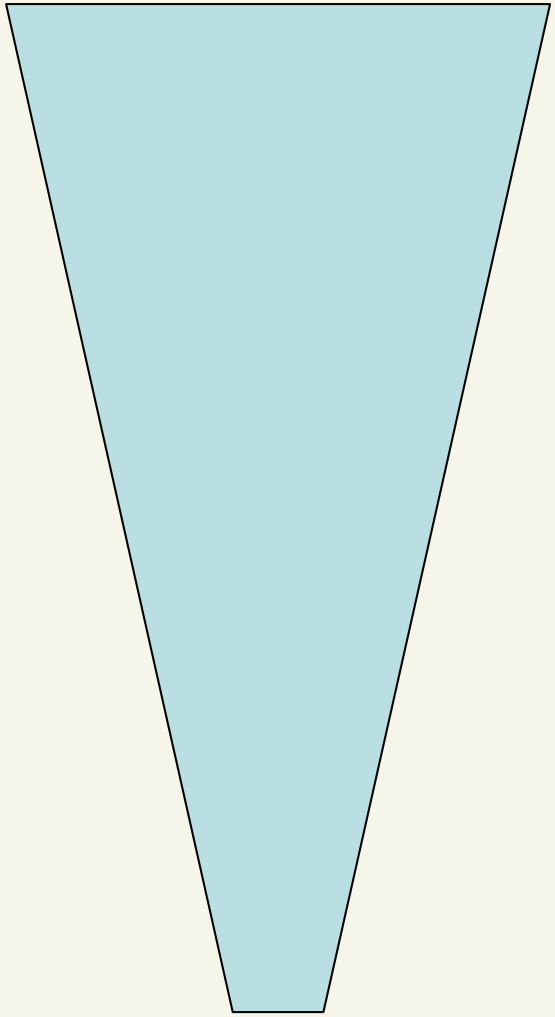

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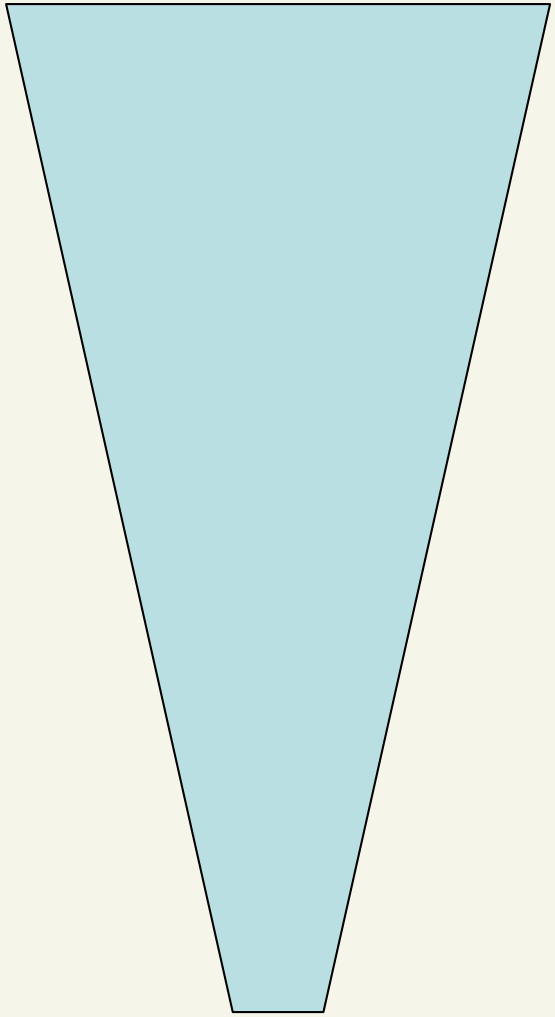

Structure of Introduction

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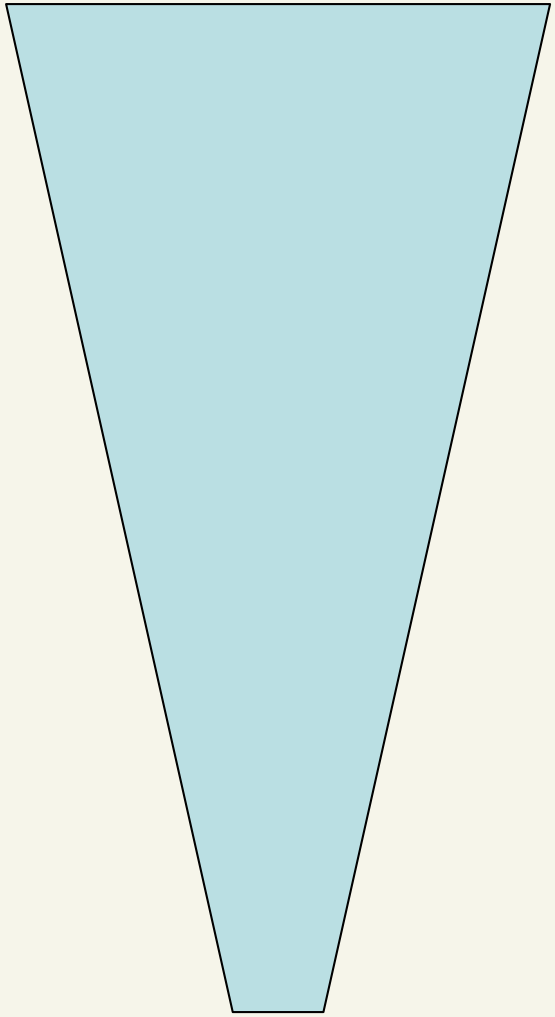

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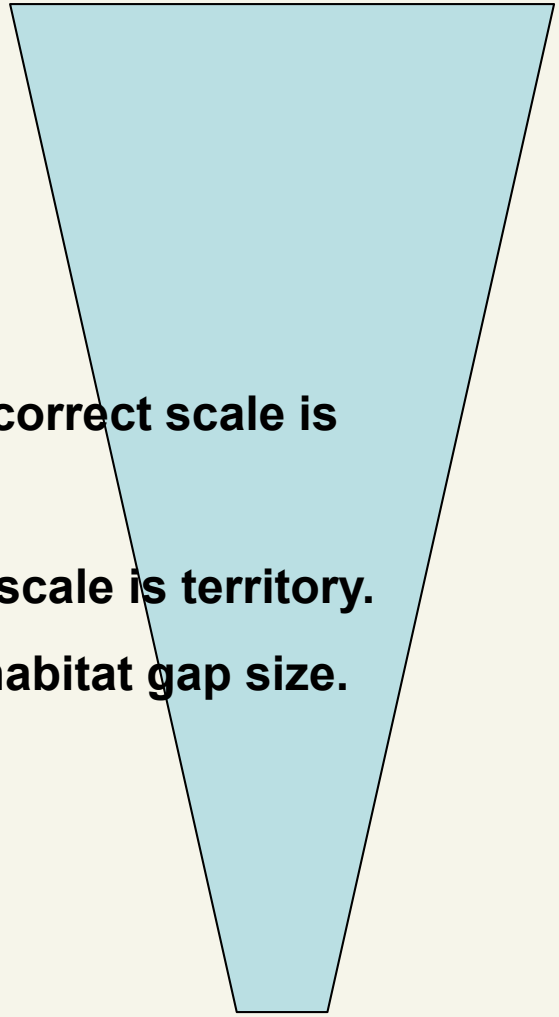

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Structure of Introduction

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Rationale for hypothesis 2

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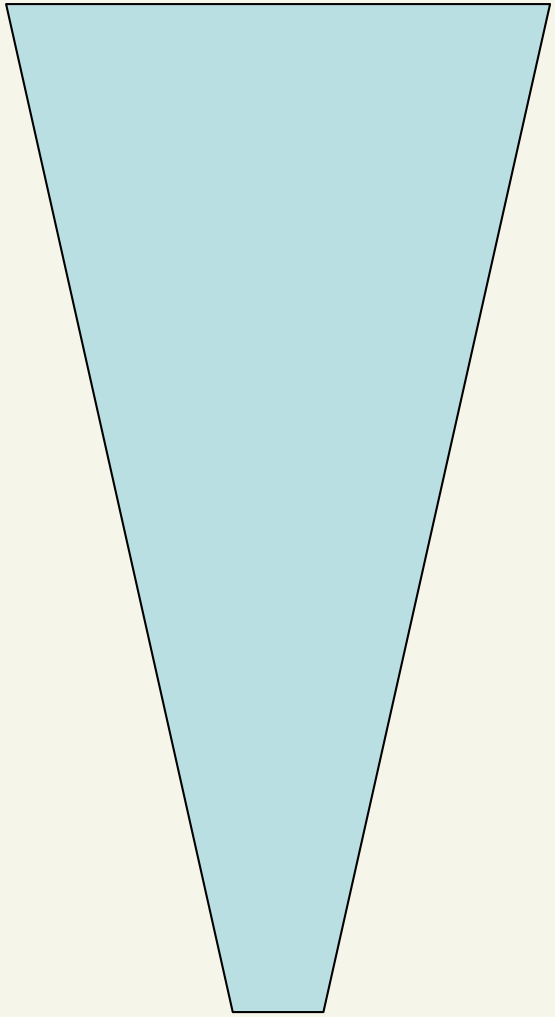
Justification for specific system



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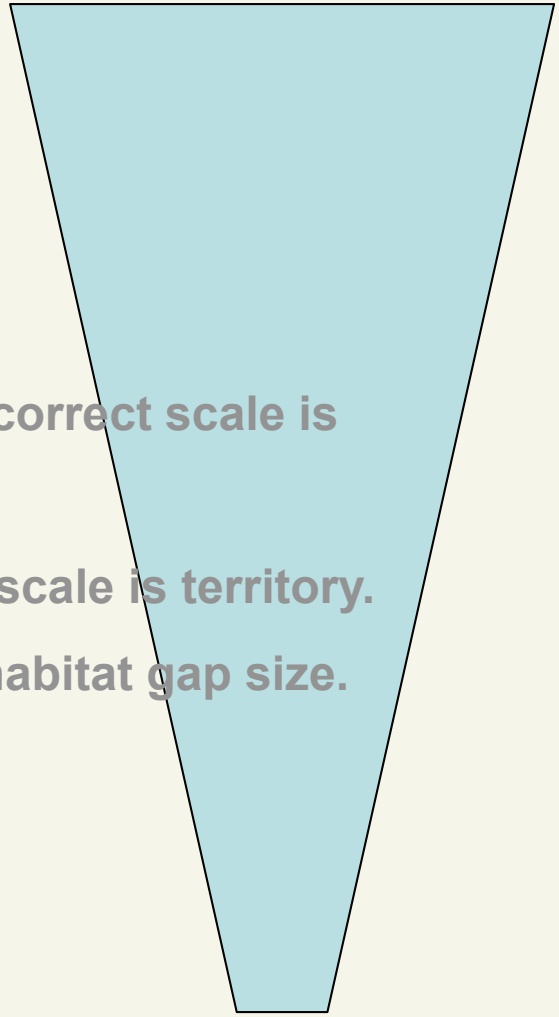

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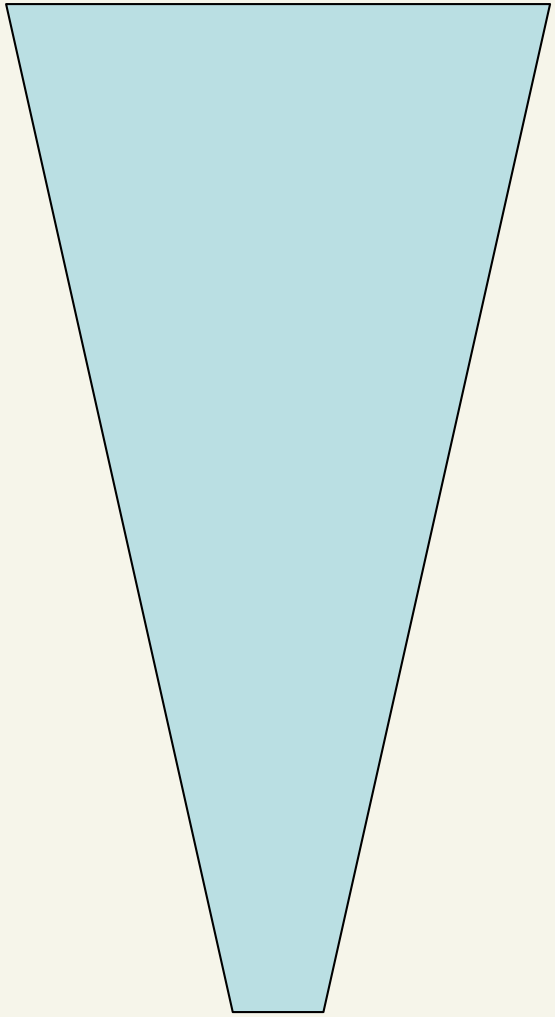
Prediction 1 (if H1 is true then we should see X)



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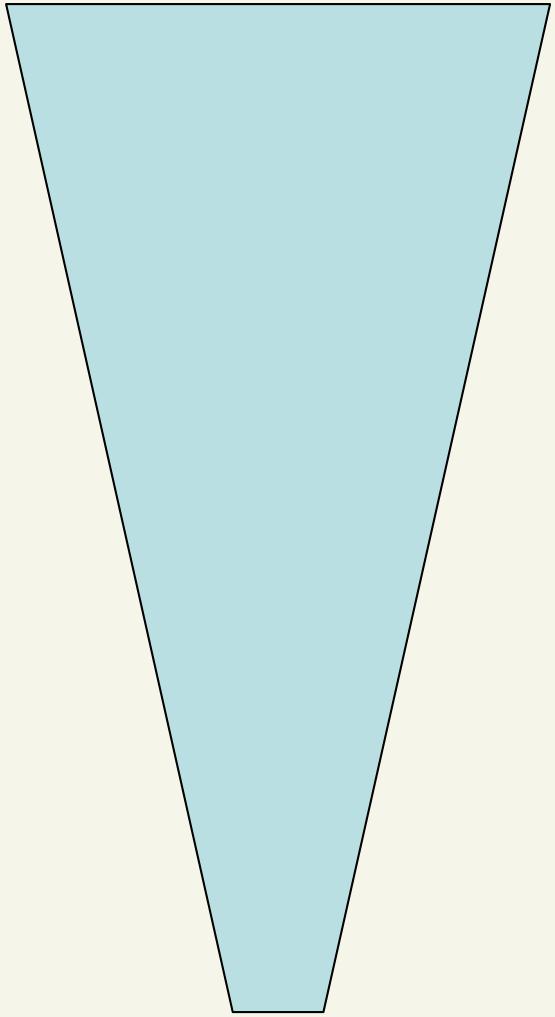

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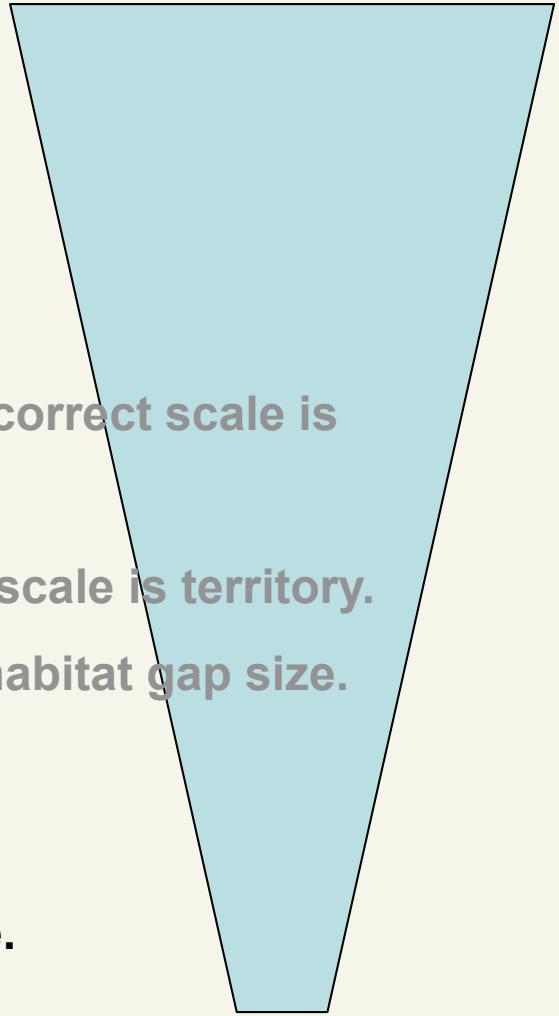

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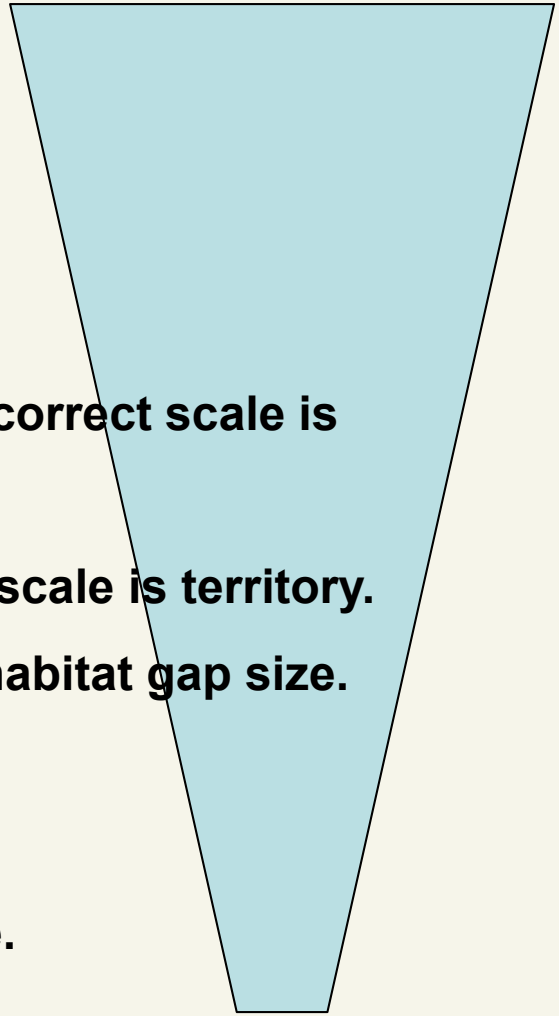

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= Introduction outline!

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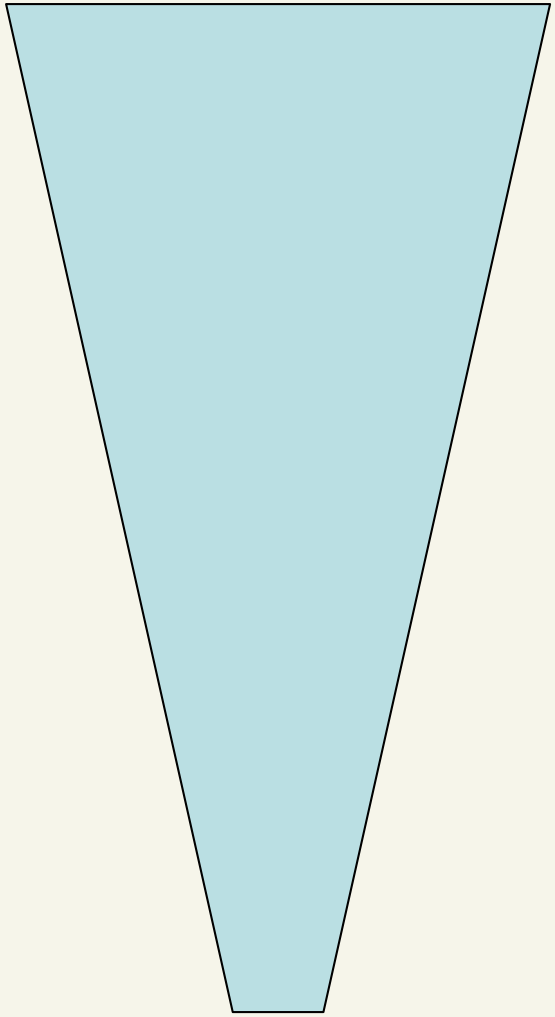

Structure of Methods

Structure of Methods

Overview (may go at end of Introduction)

Structure of Methods: example

Overview: Determined scale of effect for each species; then calculated cross-species correlations between scale of effect and (1) dispersal distance, (2) territory size, (3) gap size.

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Response variable(s) – General, P1, P2, ...

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Description of BBS: bird abundance over xx years (for all predictions)

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Potential Confounding Variables

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Analyses – P1

Analyses – P2

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= Methods outline!

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Structure of Results

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Descriptive tidbits

(e.g., no. species observed, correlations among predictors…)

Structure of Results: example

50 bird species with significant habitat models.

R2 values for best habitat models ranged from 0.2-0.7 (appendix).

Scales of effect ranged from 5 km to 50 km (appendix figures).

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Results for prediction 1

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P1 (dispersal distance) – no support; Figure 1

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= Results outline!

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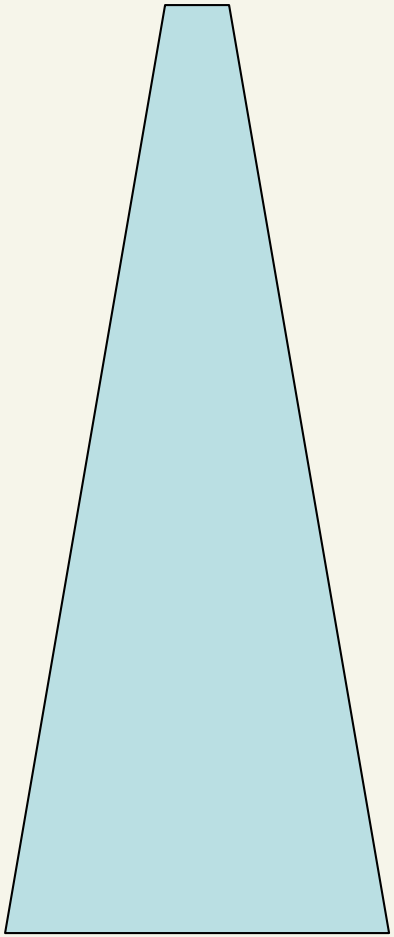

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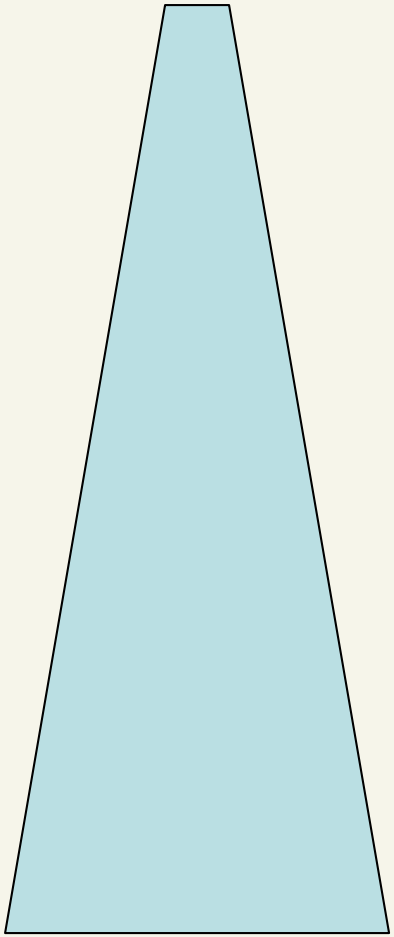
– supported / rejected? => take-home message

- reasons and relation to other findings

- discuss/eliminate alternate interpretations



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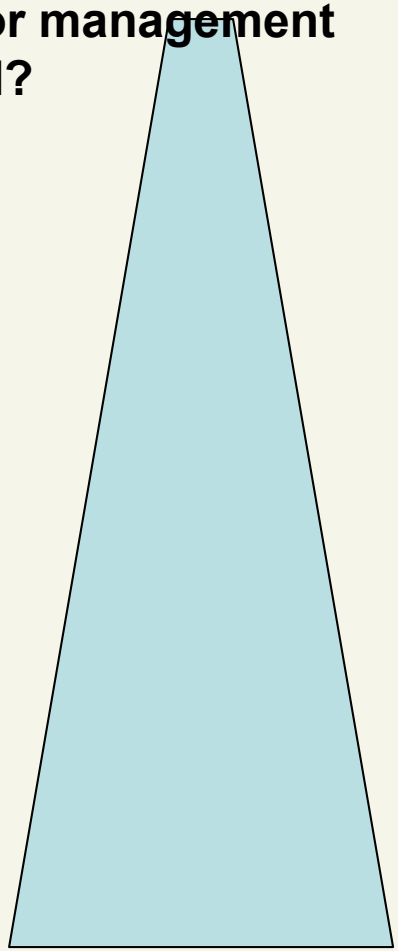

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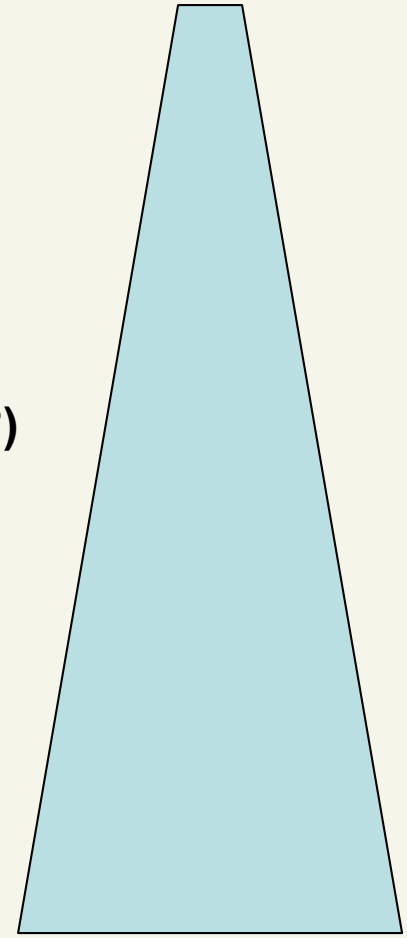

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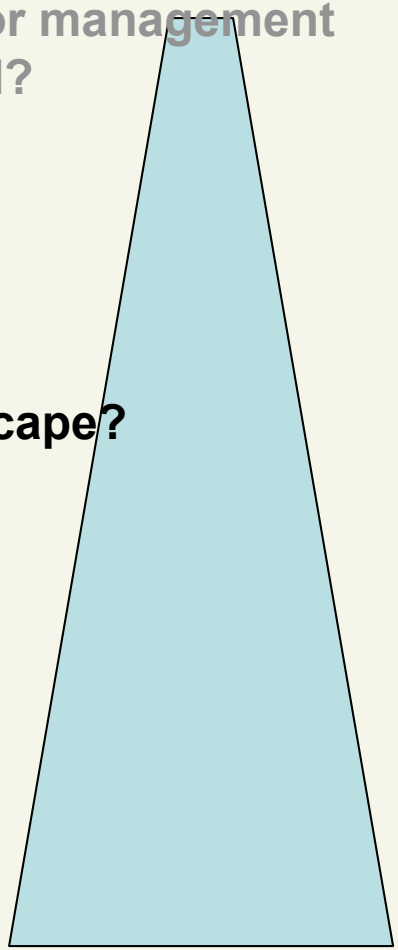

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Hypothesis 3

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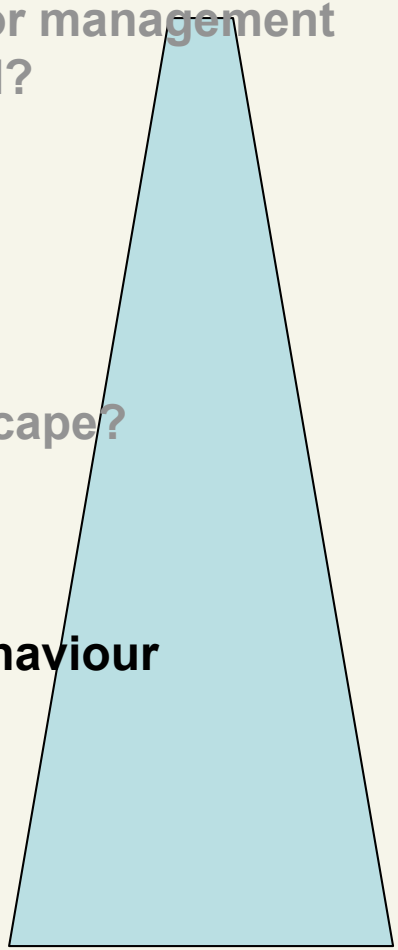
- other studies: effect of landscape on movement behaviour



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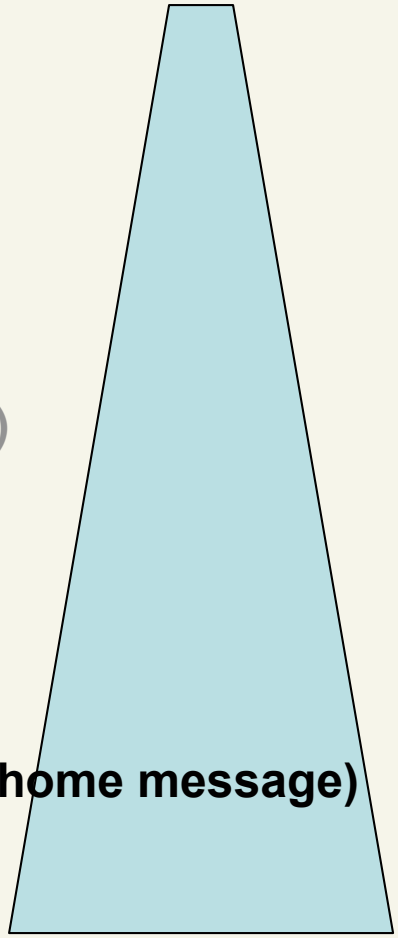
Implications – return to unanswered problem in Intro (take-home message)



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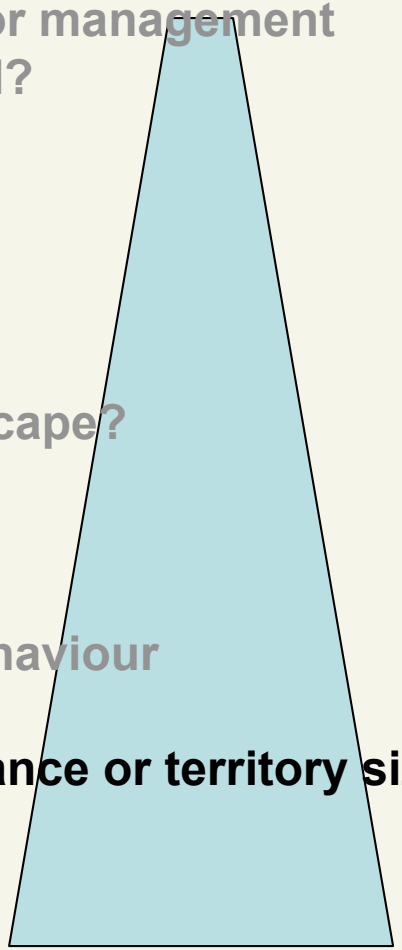

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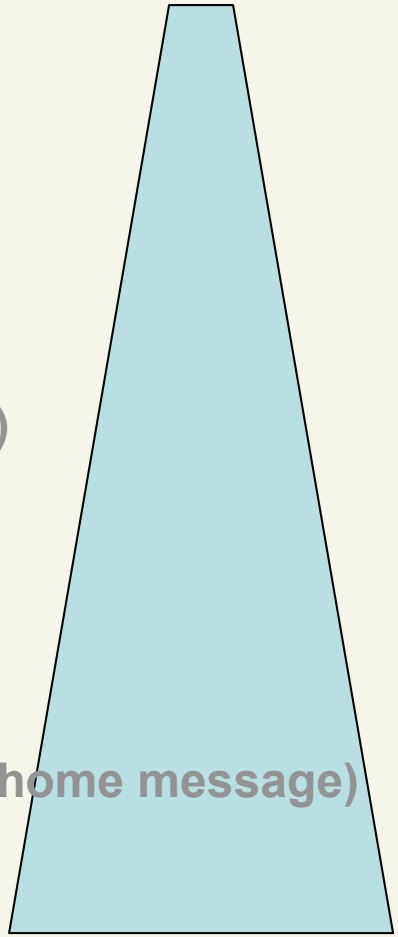

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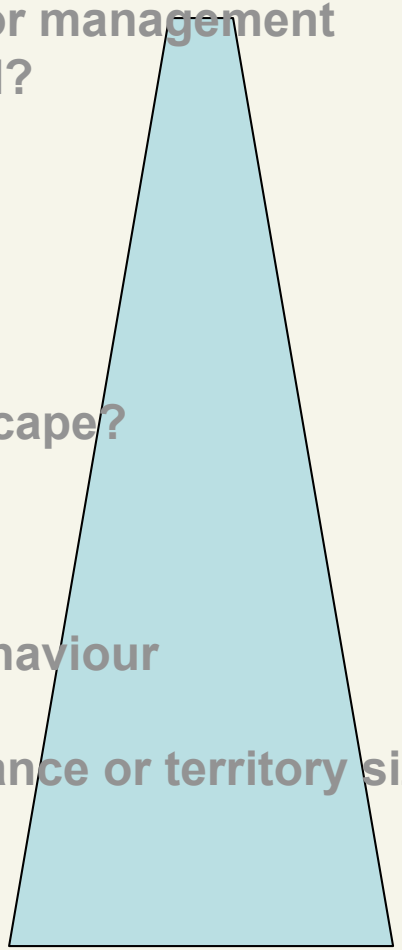
Speculation – scale of effect is not species-specific



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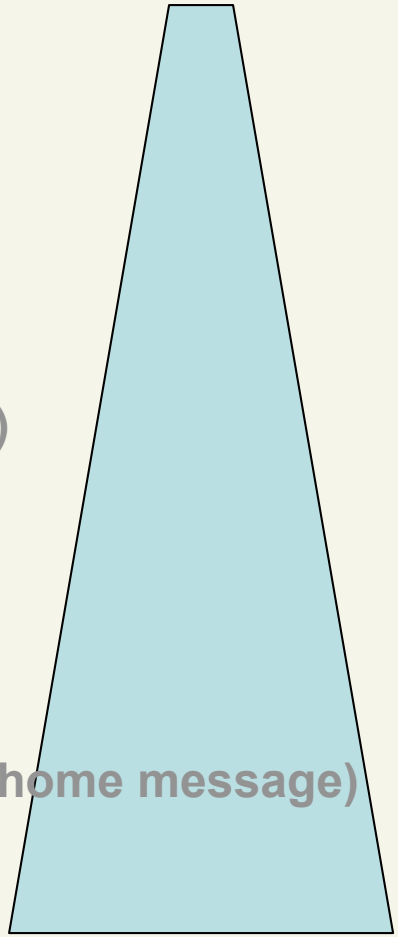
Speculations?

Implications – return to general issue in Intro



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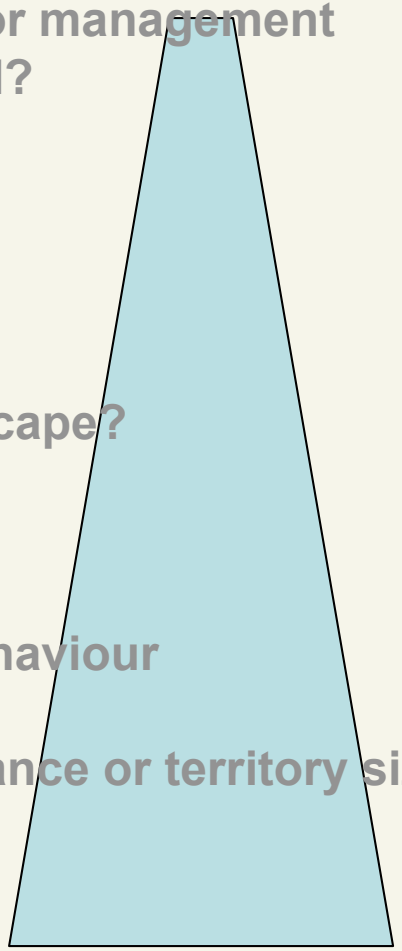

Implications – current management is not effective because it's at wrong scale?

Structure of Discussion: example

Hypothesis 1

– rejected => dispersal distance not the right scale for management
- birds don't interact with landscape during dispersal?
- results unlike beetles
- due to lousy dispersal data? - but had 4 measures

Hypothesis 2

– rejected => scales of effect larger than territories
- birds select territories based on surrounding landscape?

Hypothesis 3

- supported => birds cross gaps to get resources
- other studies: effect of landscape on movement behaviour

Implication – correct management scale is not dispersal distance or territory size

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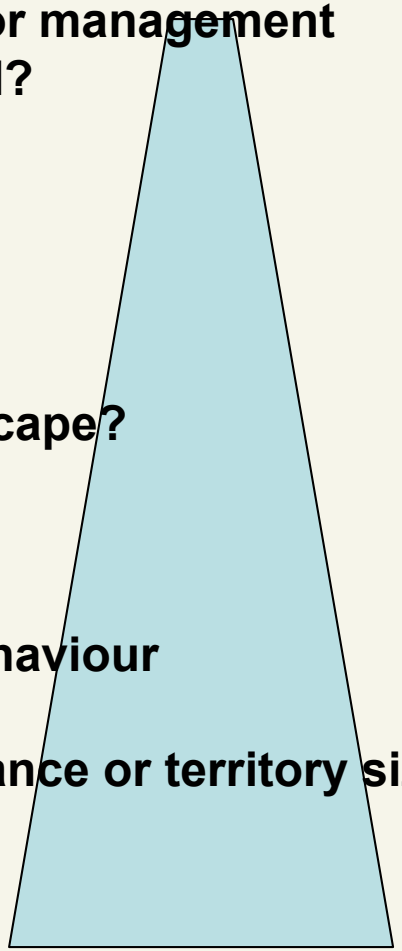

Length of text in proportion to importance.

Structure of Discussion: example

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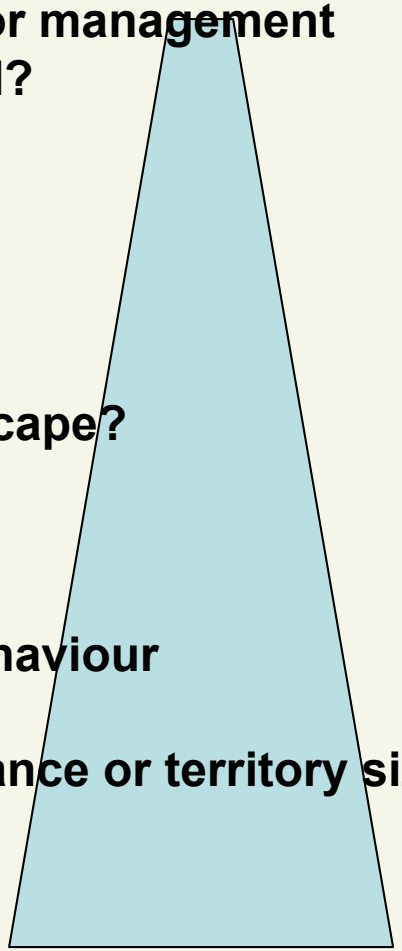


= Discussion outline!

Structure of Discussion

Hypothesis 1

– supported / rejected? => take-home message

- reasons and relation to other findings

- discuss/eliminate alternate interpretations

Hypothesis 2

– supported or rejected? (=> take-home message?)

- reasons and relation to other findings

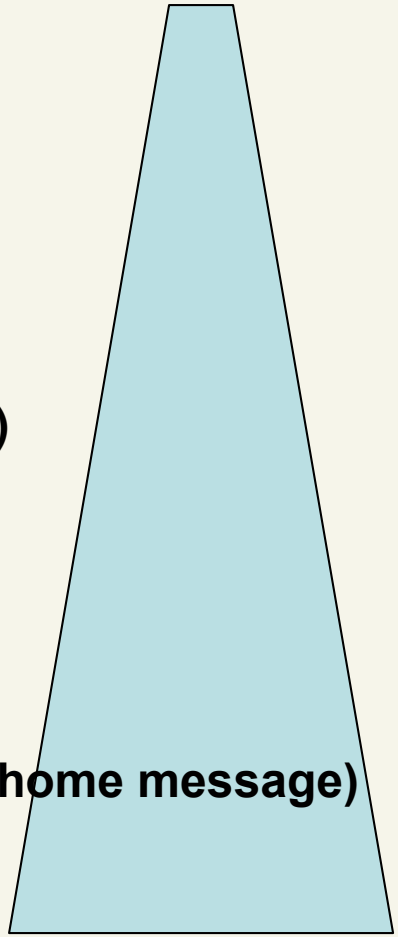
- discuss/eliminate alternate interpretations

...

Implications – return to unanswered problem in Intro (take-home message)

Speculations?

Implications – return to general issue in Intro



Structure of Abstract

Structure of Abstract

One sentence each:

Structure of Abstract

One sentence each:

- **Problem + question**

Structure of Abstract: example

The appropriate spatial scale of landscape management for animal conservation depends on the distance within which the landscape affects abundance or occurrence of the species (its “scale of effect”).

Structure of Abstract

One sentence each:

- Problem + question
- **Hypothesis 1**
- **Hypothesis 2**
- **…**

Structure of Abstract: example

The appropriate spatial scale of landscape management for animal conservation depends on the distance within which the landscape affects abundance or occurrence of the species (its “scale of effect”). It is commonly assumed that the scale of effect is determined by the species dispersal distance and/or its territory size. Alternatively, the landscape itself (e.g., gaps in habitat) could change the scale of effect by affecting animal movement.

Structure of Abstract

One sentence each:

- Problem + question
- Hypothesis 1
- Hypothesis 2
- ...
- **Predictions + methods (1, 2, …)**

Structure of Abstract: example

The appropriate spatial scale of landscape management for animal conservation depends on the distance within which the landscape affects abundance or occurrence of the species (its “scale of effect”). It is commonly assumed that the scale of effect is determined by the species dispersal distance and/or its territory size. Alternatively, the landscape itself (e.g., gaps in habitat) could change the scale of effect by affecting animal movement. We tested these hypotheses using North American forest breeding bird surveys and USGS landcover data. We determined the scale of effect for each of 50 species, and then we calculated cross-species correlations between the scale of effect and dispersal distance, territory size, and mean gap size in the landscape.

Structure of Abstract

One sentence each:

- Problem + question
- Hypothesis 1
- Hypothesis 2
- ...
- Predictions + methods (1, 2, …)
- **Result for P1**
- **Result for P2**

Structure of Abstract: example

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Structure of Abstract

One sentence each:

- Problem + question
- Hypothesis 1
- Hypothesis 2
- ...
- Predictions + methods (1, 2, …)
- Result for P1
- Result for P2
- ...
- **Main implication (take-home)**

Structure of Abstract: example

The appropriate spatial scale of landscape management for animal conservation depends on the distance within which the landscape affects abundance or occurrence of the species (its "scale of effect"). It is commonly assumed that the scale of effect is determined by the species dispersal distance and/or its territory size. Alternatively, the landscape itself (e.g., gaps in habitat) could change the scale of effect by affecting animal movement. We tested these hypotheses using North American forest breeding bird surveys and USGS landcover data. We determined the scale of effect for each of 50 species, and then we calculated cross-species correlations between the scale of effect and dispersal distance, territory size, and mean gap size in the landscape. Surprisingly, we found no correlation between the scale of effect and either dispersal distance or territory size. However, scale of effect was positively correlated with mean gap size in the species' habitat distribution. Interestingly, this result suggests that the appropriate scale for management of forest birds depends on the effects of that management on landscape pattern: management that reduces gap sizes will allow management at smaller spatial scales.

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184 words

Structure of Abstract: example

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Structure of Abstract

One sentence each:

- **Problem + question**
- **Hypothesis 1**
- **Hypothesis 2**
- **...**
- **Predictions + methods (1, 2, …)**
- **Result for P1**
- **Result for P2**
- **...**
- **Main implication (take-home)**

Structure of Abstract

Each Result and Implications statement must contain actual INFORMATION.

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NOT GOOD:

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“Such results may shed light on continental songbird population dynamics and aid in developing effective conservation strategies.”

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"Such results may shed light on continental songbird population dynamics and aid in developing effective conservation strategies."
HOW?

"We discuss the implications of our finding for conservation management."

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HOW?

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HOW?

"We discuss the implications of our finding for conservation management." **WHAT ARE THEY?**

Structure: Key Words

Structure: Key Words

Think about your desired audience: What words do THEY use?

Use DIFFERENT words than the ones in your title or abstract.

Structure: Key Words

Think about your desired audience: What words do THEY use?

Use DIFFERENT words than the ones in your title or abstract.

e.g. “fragmentation” in a paper about road effects or habitat loss

Structure of a paragraph

Structure of a paragraph

1. Topic sentence.

Structure of a paragraph

1. Topic sentence = the main conclusion of the paragraph.

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2. Back-up for the topic sentence.

Structure of a paragraph

1. Topic sentence = the main conclusion of the paragraph.

2. Back-up for the topic sentence = evidence, details, examples.

Structure of a paragraph

1. Topic sentence = the main conclusion of the paragraph.

2. Back-up for the topic sentence = evidence, details, examples.

3. Nothing else.

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3. Nothing else.

(Unless it is a very long paragraph, in which case you can repeat the main conclusion at the end.)

Hold the reader's hand.

Don’t miss any steps in the logic.

Don't assume the reader can read your mind.

Structure of a paragraph

1. Topic sentence = the main conclusion of the paragraph.

2. Back-up for the topic sentence = evidence, details, examples.

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Structure of a paragraph

What *should* this paragraph be about?

Our results indicate that spring peepers call louder when traffic noise is elevated, indicating a Lombard effect. What is of particular interest are the responses by green frogs and leopard frogs to elevated noise. Individuals of both of these species show a decrease in the power of their vocalizations during the TREATMENT and HIGH sampling, when compared to LOW. Lengagne (2008) found that the introduction of loud noise (mean 72.3 ± 18.3 dBA) does not cause anurans to move from a given location, suggesting that the response by green and leopard frogs in our study was not likely the result of a startle response.

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Structure of a paragraph

What is wrong with this paragraph?

Predators can significantly reduce bark beetle offspring production within infested trees. In addition, predators can respond numerically to prey densities at the landscape scale and have been implicated in the regulation of their populations. Thus, a small reduction in predator populations, such as in our study, and in the associated enemy-caused mortality could lead to a considerable increase in scolytid offspring production.

Structure of a paragraph

Topic sentence goes at the *top* of the paragraph, not the bottom.

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We suggest that a small reduction in predator populations such as we observed could lead to a large increase in scolytid offspring production.

[... argument and evidence supporting this assertion]

Structure of a paragraph

What is wrong with this paragraph?

Odonates are expected to respond to these changes in climate, but those responses are expected to lag behind the actual climate change. Odonate life cycles range from multivoltine (more than two generations per year) to semivoltine (less than one generation per year, as long as seven years for some odonates in our study region) (Corbet, Suhling & Soendgerath 2006), so it takes time for odonate abundances to equilibrate to new in situ climates. For new climatically available habitats, it also takes time for populations to disperse and colonize (Warren et al. 2001). Hence here we use climate change in the period prior to our sampling events as an important potential driver of community composition at the time of sampling.

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We used climate change in the period prior to our sampling events as an important potential driver of community composition at the time of sampling.
[… argument and evidence supporting this decision]

Structure of a paragraph

What two things are wrong with this paragraph?

Consequently, habitat loss and paved road density have been found to be the two most important landscape variables predicting the species richness of pond-dwelling amphibians. However, paved road density does not measure the configuration of roads, nor the location of habitat relative to roads. This may mean that road effects on amphibians have been underestimated, as it seems likely that a road that needs to be crossed to access secondary habitat or other wetlands has a much greater negative effect than one that does not. In other words, the configuration of natural habitat relative to roads is likely very important.

Structure of a paragraph

A topic sentence is *not* a summary of the previous paragraph.

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In addition to the strong effects of habitat loss and paved road density, the configuration of natural habitat relative to roads likely affects pond-dwelling amphibians.
[... argument and evidence supporting this assertion]

Structure of a paragraph

What should this paragraph be about?

These analyses demonstrated the impacts of classification choice on the detection of spatial patterning of avian biodiversity, and highlight a number of potential avenues for scientific investigation. Polygon richness and beta diversity values showed the greatest variation across classification schemes. The results of the hierarchical clustering validated the existing delineations of Bird Conservation Regions in the study area, however the interface between BCR 12 and 13 exhibited great variation in richness and species composition, and suggest that management strategies in these areas should be trans-boundary.

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What should this paragraph be about?
It should be two paragraphs!

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These analyses demonstrate the impacts of classification choice on the detection of spatial patterning of avian biodiversity.
[… argument and evidence supporting this assertion]

Our analyses also highlight a number of potential avenues for scientific investigation.
[… argument and evidence supporting this assertion]

Structure of a paragraph

Each paragraph contains only ONE major idea.

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These analyses demonstrate the impacts of classification choice on the detection of spatial patterning of avian biodiversity.
[… argument and evidence supporting this assertion]

Our analyses also highlight a number of potential avenues for scientific investigation.
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This presentation will likely have very little effect on the quality of papers produced in this lab.

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Sentences that DO NOT belong in this paragraph:

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This talk is too early in the morning for people to learn anything.

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The main problem with the quality of papers in our lab is the quality of the data, not the quality of the writing.

Strategy

Structure

Style

Strategy

Structure

Style

Style

simple, natural, honest, (provocative)

Style of Title

simple, natural, honest, (provocative)

Strategy, Structure, and Style:
Principles for Effective Scientific Writing

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simple, natural, honest, (provocative)

Strategy, Structure, and Style:
Principles for Effective Scientific Writing

How To Write a Scientific Paper that People Will Want to Read (and Cite!)

Style of Abstract

simple (but not too short), honest, natural, provocative

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The appropriate spatial scale of landscape management for animal conservation depends on the distance within which the landscape affects abundance or occurrence of the species (its “scale of effect”). It is commonly assumed that the scale of effect is determined by the species dispersal distance and/or its territory size. Alternatively, the landscape itself (e.g., gaps in habitat) could change the scale of effect by affecting animal movement. We tested these hypotheses using North American forest breeding bird surveys and USGS landcover data. We determined the scale of effect for each of 50 species, and then we calculated cross-species correlations between the scale of effect and dispersal distance, territory size, and mean gap size in the landscape. Surprisingly, we found no correlation between the scale of effect and either dispersal distance or territory size. However, scale of effect was positively correlated with mean gap size in the species’ habitat distribution. Interestingly, this result suggests that the appropriate scale for management of forest birds depends on the effects of that management on landscape pattern: management that reduces gap sizes will allow management at smaller spatial scales.

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Style of Methods Paragraph: simple, honest, natural

The following protocol was followed when conducting the point count surveys at the individual sampling stations. Point counts carried out at each station were conducted for a duration of 10 minutes. The point count surveys commenced 30 minutes preceding sunrise and they terminated five hours following sunrise. Point counts were not conducted in the event that either of the following two conditions occurred at the planned time of the point count. First, they were not conducted whenever wind velocity was excessive. Wind velocity was considered excessive in the event that measured wind velocity obtained a value greater than 3 units on the Beaufort scale. Secondly, the point counts were not conducted whenever precipitation was occurring at the station. In the event that either of these two conditions occurred at the time when a survey had been scheduled, the point counts scheduled for that point in time were cancelled and were then undertaken on the succeeding feasible date having sufficiently low wind velocity and an absence of precipitation. All adult individual birds that were detected by the observer either through the use of visual detection or auditory detection within the time period of each point count survey, were included in the survey data, irrespective of the distance from the point count station at which the individual had been detected. However, individuals that were detected as they were passing in flight at high altitude overhead of the station were not recorded in the point count surveys.

Style of Methods Paragraph: simple, honest, natural

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Style of Methods Paragraph: simple, honest, natural

Not all traps were recovered from the field sites, leading to a reduced sample size in some fields. In June, the crop traps in the organic site belonging to pair 1 were destroyed by a tractor. The traps could not be repeated due to ongoing field operations, so these data are missing from the analysis. In July, the edge and hedge traps in the organic site belonging to pair 11 were all destroyed by an animal. We could not repeat these traps, due to lack of permission from the landowner, so these data are also missing from the analysis. Individual traps were destroyed by animals or were flooded, at various transects throughout the study. In these cases, we simply used the data from the remaining traps. A full list of the numbers of traps used at each transect can be found in appendix A. Of the 209 transects included in the analysis, 186 (89%) include data from at least 3 traps.

Style of Methods Paragraph: simple, honest, natural

Not all traps were recovered from the field sites, leading to a reduced sample size in some fields. In June, the crop traps in the organic site belonging to pair 1 were destroyed by a tractor. The traps could not be repeated due to ongoing field operations, so these data are missing from the analysis. In July, the edge and hedge traps in the organic site belonging to pair 11 were all destroyed by an animal. We could not repeat these traps, due to lack of permission from the landowner, so these data are also missing from the analysis. Individual traps were destroyed by animals or were flooded, at various transects throughout the study. In these cases, we simply used the data from the remaining traps. A full list of the numbers of traps used at each transect can be found in appendix A. Of the 209 transects included in the analysis, 186 (89%) include data from at least 3 traps.

Not all traps were recovered from the field sites, due to occasional destruction by animals, flooding, or farm machinery. Of the 209 transects included in the analysis, 186 (89%) include data from at least 3 traps (Appendix A).

Style of Results Paragraph: simple, honest, natural

The overall mean weighted effect size based on a random effects model fit to the entire sample of 152 datasets was 0.53 (95% CI: 0.34, 0.72), indicating that, on average, mitigation measures reduced road-related wildlife mortality (Figure S3). When ES_{SMD} is converted into Cohen's U3-50% index (note ES_{SMD} was first converted to Cohen's d = 2.24), ES_{SMD} = 0.53 is equivalent to mitigation measures reducing road mortality on average by 49% compared with controls. There was, however, substantial heterogeneity in effect sizes (Q = 255.6, $p < 0.0001$, n = 152), indicating that there was substantial variation among estimates in the extent to which mitigation measures reduced road mortality. Plotting effect sizes against corresponding standard error measures and Egger's regression test (z = 0.005, p = 0.99) suggested no significant funnel plot asymmetry, patterns consistent with an absence of publication bias (Figure S4).

Style of Results Paragraph: simple, honest, natural

The overall mean weighted effect size based on a random effects model fit to the entire sample of 152 datasets was 0.53 (95% CI: 0.34, 0.72), indicating that, on average, mitigation measures reduced road-related wildlife mortality (Figure S3). When ES_{SMD} is converted into Cohen's U3-50% index (note ES_{SMD} was first converted to Cohen's d = 2.24), ES_{SMD} = 0.53 is equivalent to mitigation measures reducing road mortality on average by 49% compared with controls. There was, however, substantial heterogeneity in effect sizes (Q = 255.6, p < 0.0001, n = 152), indicating that there was substantial variation among estimates in the extent to which mitigation measures reduced road mortality. Plotting effect sizes against corresponding standard error measures and Egger's regression test (z = 0.005, p = 0.99) suggested no significant funnel plot asymmetry, patterns consistent with an absence of publication bias (Figure S4).

Overall, mitigation measures reduced road-related wildlife mortality by about 49% compared with controls (Table xx). There was substantial variation among effect sizes (Figure S3), but no evidence of publication bias (Figure S4).

Style of Results Paragraph: simple, honest, natural

The overall mean weighted effect size based on a random effects model fit to the entire sample of 152 datasets was 0.53 (95% CI: 0.34, 0.72), indicating that, on average, mitigation measures reduced road-related wildlife mortality (Figure S3). When ES_{SMD} is converted into Cohen's U3-50% index (note ES_{SMD} was first converted to Cohen's d = 2.24), ES_{SMD} = 0.53 is equivalent to mitigation measures reducing road mortality on average by 49% compared with controls. There was, however, substantial heterogeneity in effect sizes (Q = 255.6, p < 0.0001, n = 152), indicating that there was substantial variation among estimates in the extent to which mitigation measures reduced road mortality. Plotting effect sizes against corresponding standard error measures and Egger's regression test (z = 0.005, p = 0.99) suggested no significant funnel plot asymmetry, patterns consistent with an absence of publication bias (Figure S4).

Overall, mitigation measures reduced road-related wildlife mortality by about 49% compared with controls (Table xx). There was substantial variation among effect sizes (Figure S3), but no evidence of publication bias (Figure S4).

Leave the Methods in the Methods section.

Style: How to make it simple

Text

- **short sentences**

Style: How to make it simple

Text

- short sentences
- **simple construction**

Style: How to make it simple

PHILIP B. CORBETT (New York Times Blog):

“There's no formula to determine when a sentence is overloaded or threatening to run off the rails. But there are warning signs. Sentences of 40, 50 or 60 words are awfully hard to make readable. When you get up to four or five commas, think again. A half-dozen verbs usually mean trouble. And when a reader's mind has to move back and forth and back again, all before hitting a period, it's time to take another look.”

Style: How to make it simple

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Style: Short Sentences

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Style: How to make it simple

Text

- short sentences
- **simple construction**

Style: How to make it simple

Text

- short sentences
- simple construction
- **active voice**

Style: How to make it simple

Text

- short sentences
- simple construction
- active voice

Passive: “Point counts were conducted”

Active: “We conducted point counts”

Style: How to make it simple

Text

- short sentences
- simple construction
- active voice
- **simple, direct terminology: talk about what you actually measured**
  e.g., if you mean movement distance, don't say movement scale

Style: Simple Terminology

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Style: How to make it simple

Original	Simpler		

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		
a lower number of	fewer		

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		
a lower number of	fewer		
a preponderance of	many		

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		
a lower number of	fewer		
a preponderance of	many		
a total of			

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		
a lower number of	fewer		
a preponderance of	many		
a total of			
as a result of	by		

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		
a lower number of	fewer		
a preponderance of	many		
a total of			
as a result of	by		
as well as	and		

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		
a lower number of	fewer		
a preponderance of	many		
a total of			
as a result of	by		
as well as	and		
at a fast rate	quickly		

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		
a lower number of	fewer		
a preponderance of	many		
a total of			
as a result of	by		
as well as	and		
at a fast rate	quickly		
by means of	by		

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		
a lower number of	fewer		
a preponderance of	many		
a total of			
as a result of	by		
as well as	and		
at a fast rate	quickly		
by means of	by		
collect measurements of	measure		

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		
a lower number of	fewer		
a preponderance of	many		
a total of			
as a result of	by		
as well as	and		
at a fast rate	quickly		
by means of	by		
collect measurements of	measure		
composed of	of		

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		
a lower number of	fewer		
a preponderance of	many		
a total of			
as a result of	by		
as well as	and		
at a fast rate	quickly		
by means of	by		
collect measurements of	measure		
composed of	of		
during the course of	during		

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		
a lower number of	fewer		
a preponderance of	many		
a total of			
as a result of	by		
as well as	and		
at a fast rate	quickly		
by means of	by		
collect measurements of	measure		
composed of	of		
during the course of	during		
each of the things	each thing		

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		
a lower number of	fewer		
a preponderance of	many		
a total of			
as a result of	by		
as well as	and		
at a fast rate	quickly		
by means of	by		
collect measurements of	measure		
composed of	of		
during the course of	during		
each of the things	each thing		
a higher number of	more		

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		
a lower number of	fewer		
a preponderance of	many		
a total of			
as a result of	by		
as well as	and		
at a fast rate	quickly		
by means of	by		
collect measurements of	measure		
composed of	of		
during the course of	during		
each of the things	each thing		
a higher number of	more		
greater than	over		

Style: How to make it simple

Original	Simpler		
a long period of time	a long time		
a lower number of	fewer		
a preponderance of	many		
a total of			
as a result of	by		
as well as	and		
at a fast rate	quickly		
by means of	by		
collect measurements of	measure		
composed of	of		
during the course of	during		
each of the things	each thing		
a higher number of	more		
greater than	over		
through the use of	using		

Style: How to make it simple

Original	Simpler	Original	Simpler
a long period of time	a long time	have a negative effect on	reduce
a lower number of	fewer		
a preponderance of	many		
a total of			
as a result of	by		
as well as	and		
at a fast rate	quickly		
by means of	by		
collect measurements of	measure		
composed of	of		
during the course of	during		
each of the things	each thing		
a higher number of	more		
greater than	over		
through the use of	using		

Style: How to make it simple

Original	Simpler	Original	Simpler
a long period of time	a long time	have a negative effect on	reduce
a lower number of	fewer	have an effect on	affect
a preponderance of	many		
a total of			
as a result of	by		
as well as	and		
at a fast rate	quickly		
by means of	by		
collect measurements of	measure		
composed of	of		
during the course of	during		
each of the things	each thing		
a higher number of	more		
greater than	over		
through the use of	using		

Style: How to make it simple

Original	Simpler	Original	Simpler
a long period of time	a long time	have a negative effect on	reduce
a lower number of	fewer	have an effect on	affect
a preponderance of	many	in order to	to
a total of			
as a result of	by		
as well as	and		
at a fast rate	quickly		
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collect measurements of	measure		
composed of	of		
during the course of	during		
each of the things	each thing		
a higher number of	more		
greater than	over		
through the use of	using		

Style: How to make it simple

Original	Simpler	Original	Simpler
a long period of time	a long time	have a negative effect on	reduce
a lower number of	fewer	have an effect on	affect
a preponderance of	many	in order to	to
a total of		is dependent on	depends on
as a result of	by		
as well as	and		
at a fast rate	quickly		
by means of	by		
collect measurements of	measure		
composed of	of		
during the course of	during		
each of the things	each thing		
a higher number of	more		
greater than	over		
through the use of	using		

Style: How to make it simple

Original	Simpler	Original	Simpler
a long period of time	a long time	have a negative effect on	reduce
a lower number of	fewer	have an effect on	affect
a preponderance of	many	in order to	to
a total of		is dependent on	depends on
as a result of	by	populations with low numbers	small populations
as well as	and		
at a fast rate	quickly		
by means of	by		
collect measurements of	measure		
composed of	of		
during the course of	during		
each of the things	each thing		
a higher number of	more		
greater than	over		
through the use of	using		

Style: How to make it simple

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a long period of time	a long time	have a negative effect on	reduce
a lower number of	fewer	have an effect on	affect
a preponderance of	many	in order to	to
a total of		is dependent on	depends on
as a result of	by	populations with low numbers	small populations
as well as	and	the majority of	most
at a fast rate	quickly		
by means of	by		
collect measurements of	measure		
composed of	of		
during the course of	during		
each of the things	each thing		
a higher number of	more		
greater than	over		
through the use of	using		

Style: How to make it simple

Original	Simpler	Original	Simpler
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a preponderance of	many	in order to	to
a total of		is dependent on	depends on
as a result of	by	populations with low numbers	small populations
as well as	and	the majority of	most
at a fast rate	quickly	to a greater degree (or extent)	more
by means of	by		
collect measurements of	measure		
composed of	of		
during the course of	during		
each of the things	each thing		
a higher number of	more		
greater than	over		
through the use of	using		

Style: How to make it simple

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a total of		is dependent on	depends on
as a result of	by	populations with low numbers	small populations
as well as	and	the majority of	most
at a fast rate	quickly	to a greater degree (or extent)	more
by means of	by	utilize	use
collect measurements of	measure		
composed of	of		
during the course of	during		
each of the things	each thing		
a higher number of	more		
greater than	over		
through the use of	using		

Style: How to make it simple

Original	Simpler	Original	Simpler
a long period of time	a long time	have a negative effect on	reduce
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a preponderance of	many	in order to	to
a total of		is dependent on	depends on
as a result of	by	populations with low numbers	small populations
as well as	and	the majority of	most
at a fast rate	quickly	to a greater degree (or extent)	more
by means of	by	utilize	use
collect measurements of	measure	were found to have	had
composed of	of		
during the course of	during		
each of the things	each thing		
a higher number of	more		
greater than	over		
through the use of	using		

Style: How to make it simple

Original	Simpler	Original	Simpler
a long period of time	a long time	have a negative effect on	reduce
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a total of		is dependent on	depends on
as a result of	by	populations with low numbers	small populations
as well as	and	the majority of	most
at a fast rate	quickly	to a greater degree (or extent)	more
by means of	by	utilize	use
collect measurements of	measure	were found to have	had
composed of	of	with the predominant types being	mainly
during the course of	during		
each of the things	each thing		
a higher number of	more		
greater than	over		
through the use of	using		

Style: How to make it simple

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a total of		is dependent on	depends on
as a result of	by	populations with low numbers	small populations
as well as	and	the majority of	most
at a fast rate	quickly	to a greater degree (or extent)	more
by means of	by	utilize	use
collect measurements of	measure	were found to have	had
composed of	of	with the predominant types being	mainly
during the course of	during	For the purposes of this study…;	Here, …
each of the things	each thing		
a higher number of	more		
greater than	over		
through the use of	using		

Style: How to make it simple

Original	Simpler	Original	Simpler
a long period of time	a long time	have a negative effect on	reduce
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as a result of	by	populations with low numbers	small populations
as well as	and	the majority of	most
at a fast rate	quickly	to a greater degree (or extent)	more
by means of	by	utilize	use
collect measurements of	measure	were found to have	had
composed of	of	with the predominant types being	mainly
during the course of	during	For the purposes of this study…;	Here, …
each of the things	each thing	is able to	can
a higher number of	more		
greater than	over		
through the use of	using		

Style: How to make it simple

Original	Simpler	Original	Simpler
a long period of time	a long time	have a negative effect on	reduce
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a total of		is dependent on	depends on
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as well as	and	the majority of	most
at a fast rate	quickly	to a greater degree (or extent)	more
by means of	by	utilize	use
collect measurements of	measure	were found to have	had
composed of	of	with the predominant types being	mainly
during the course of	during	For the purposes of this study…;	Here, …
each of the things	each thing	is able to	can
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greater than	over		
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a long period of time	a long time	have a negative effect on	reduce
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as well as	and	the majority of	most
at a fast rate	quickly	to a greater degree (or extent)	more
by means of	by	utilize	use
collect measurements of	measure	were found to have	had
composed of	of	with the predominant types being	mainly
during the course of	during	For the purposes of this study…;	Here, …
each of the things	each thing	is able to	can
a higher number of	more	a lesser degree of	reduced
greater than	over	one of the	a
through the use of	using		

Style: How to make it simple

Original	Simpler	Original	Simpler
a long period of time	a long time	have a negative effect on	reduce
a lower number of	fewer	have an effect on	affect
a preponderance of	many	in order to	to
a total of		is dependent on	depends on
as a result of	by	populations with low numbers	small populations
as well as	and	the majority of	most
at a fast rate	quickly	to a greater degree (or extent)	more
by means of	by	utilize	use
collect measurements of	measure	were found to have	had
composed of	of	with the predominant types being	mainly
during the course of	during	For the purposes of this study…;	Here, …
each of the things	each thing	is able to	can
a higher number of	more	a lesser degree of	reduced
greater than	over	one of the	a
through the use of	using	was calculated as	was

Style: How to make it simple

Original	Simpler	Original	Simpler
some sort of	a		

Style: How to make it simple

Original	Simpler	Original	Simpler
some sort of	a		
were equipped with	had		

Style: How to make it simple

Original	Simpler	Original	Simpler
some sort of	a		
were equipped with	had		
experienced mortality	died		

Style: How to make it simple

Original	Simpler	Original	Simpler
some sort of	a		
were equipped with	had		
experienced mortality	died		
is contingent on	depends on		

Style: How to make it simple

Original	Simpler	Original	Simpler
some sort of	a		
were equipped with	had		
experienced mortality	died		
is contingent on	depends on		
over a short timeframe	quickly		

Style: How to make it simple

Original	Simpler	Original	Simpler
some sort of	a		
were equipped with	had		
experienced mortality	died		
is contingent on	depends on		
over a short timeframe	quickly		
and as such	so		

Style: How to make it simple

Original	Simpler	Original	Simpler
some sort of	a		
were equipped with	had		
experienced mortality	died		
is contingent on	depends on		
over a short timeframe	quickly		
and as such	so		
in situations where	when		

Style: How to make it simple

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- short sentences
- simple construction
- active voice
- simple, direct terminology: talk about what you actually measured
  e.g., if you mean movement distance, don't say movement scale

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Landscape structure is a major factor influencing species distributions, and current land-use change operating at the global scale represents a major threat for biodiversity worldwide.

How To Write a Scientific Paper that People Will Want to Read (and Cite!):

Strategy
Structure
Style

REMEMBER:

No-one is REQUIRED to read your paper.
You have to make people WANT to read it.

PS: How to Deal with Reviews

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4. While a paper is mostly about words, a poster is mostly about pictures.
5. **Before putting words on a poster, ask yourself, "could I say that with a picture instead?"**

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10. **Make a really big, simple, natural, honest, provocative title and put it at the top.**