FWF 410: “Final Project on WSCE Area”

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Goal of the Lecture
To familiarize students with the components of and writing a habitat management plan.

Reading Assignments:
- Multiple Handouts

Lecture Structure
I. Management Plan Format
II. Table and Figure Format
III. Plan Components
Management Plan Format
Title Page

Presentation
• 3-ring Binder w/ Sleeves for Field Maps or Disks
• 25% Cotton Paper (white)

• Title
• Theme Photo
• Authors and Their Affiliations
• Project Identity
• Date

Management Plan Format
Initial Pages

1) Executive Summary
One to two page synopsis of entire document including objectives, general habitat analysis results, and proposed management.

Pages not numbered or included in numbering
Analogous to an Abstract for a Research Article

2) Acknowledgments
• Page number starts with “II” (bottom centered)
• Thank landowners if on private land
• Acknowledge staff and volunteers that helped collect or process data
• Acknowledge colleagues who provided editorial comments or suggestions
• Acknowledge contributors ($, equipment, supplies)

Management Plan Format
Initial Pages

3) Table of Contents
• MAJOR HEADINGS (i.e., sections)
• Minor Headings
• Sub Headings
• Sub-sub Headings
• Leader Dots
• Page Numbers Right Justified
• First Section Starts Page 1

Introduction, Management Area, Literature Review, Habitat Analysis, Management Plan
Management Plan Format

Initial Pages

4) List of Tables, Figures, Appendices

Tables are Numbered

Appendices are Lettered

Tables: Statistical Results (g, p, n, S)
Figures: Study Area Maps, Regression Lines, Pie Charts, Relative Frequency Bars

Appendices: Species Lists, Description of Statistical Analyses, Advertisement for Management Equipment

Tables, Figures, and Appendices MUST be able to Stand Alone!

Very descriptive titles

Management Plan Format

Table Format

Follow Journal of Wildlife Management Guidelines

• No vertical lines in table, Headings Underlined
• 1 Variable = Response Variables
• Present g and SD as statistics; different letters in row ⇒ statistical difference
• Footnotes include 5 spaces and provide additional information
• Sample sizes, plot size, statistical notes (unlike letters in rows differ)

Management Plan Format

Figure Format

Follow Journal of Wildlife Management Guidelines


No footnotes but can be more than one sentence.
Management Plan Components

Introduction

1) The purpose (goal) of this management plan is to...
2) Justification for the plan.
   Why are you writing a plan?
3) Structure of the plan (its sections).
4) Specific objectives of last 3 sections.
5) Overall predictions of plan and project costs and commitments.

Management Plan Components

Management Area Description

Sub-sections: 1–2 paragraphs each

- Geographic Location, Size and General Description
- General Climate
- Vegetation Types
- Major Animal Groups
- Public (or private) Access and Use

Existing Vegetation Types (forest, wetland) in Area

- Make 2 Maps
- List All Possible Spp in Appendix

- Make 2 Tables
- Consumptive (hunting, fishing) and non-consumptive (hiking, camping, etc) Uses

- Make 3 Appendices
- Habitat, Bird, Mammals

- See Handout

- www.topozone.com

Management Plan Components

Literature Review

Background information on target (primary focus) and non-target species biology, habitat requirements (annual cycle), and management.

Sub-Sections:

- Target Species
  Ruffed grouse (*Bonasa umbellus*)

- Non-Target Species (or community)
  Game:
  Select 2 Species
  - Whitetail deer, turkey, black bear

  Non-game:
  Select 1 Community
  - Neotropical migrants, amphibians
Management Plan Components

Habitat Analysis

Comparison of Grouse Habitat vs. Non-habitat

Sub-Sections:
- Introduction
  - Reasons for Habitat Analysis, Objectives
- Methods
  - Sampling Design, Response Variables, Sampling and Statistical Techniques
- Results
  - Description of Results with Reference to Tables and Figures
  - Discussion of Results
    - Discuss the Implications of your Results with respect to Species Biology and Habitat Management.

Management Plan Components

Habitat Analysis

Comparison of Grouse vs. Non-grouse Habitat

Response Variables:
- Statistical Comparisons & Tables
  - Basal Area, Overstory Height, Percent Canopy
  - Vertical Cover (Nudds) by Height Strata & Total Obscurity
  - Percent Life Forms (Nudds) by Life Form
  - Total Stem Density (by understory, midstory, overstory)
  - Midstory Stem Density (by DBH class)
  - Species Richness and Shannon Diversity
- Summary Statistics &/or Figures
  - Average DBH (by species by treatment)
  - Average Stem Density (by species by treatment)

Management Plan Components

Management Plan

Ruffed Grouse Management

Sub-Sections:
- Introduction
  - Existing management, Inhibiting Factors, Objectives
- Management Recommendations
  - Forest Management Techniques (consider all habitat components)
  - Public Uses (consumptive & nonconsumptive)
- Predicted Influences on Target and Non-target Species
  - Duration of Positive and Negative
- Cost of Management
  - Timber Harvesting, etc. (consider $5 returns from timber sales)
- Time Schedule for Management
  - Implementation and Future Rotation
- Recommendations for Research or Evaluation
  - What techniques and how often?
Management Plan Components

Literature Cited

In Text Format

<table>
<thead>
<tr>
<th>Authorship</th>
<th>In Sentence</th>
<th>End of Sentence (preferred)</th>
</tr>
</thead>
<tbody>
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<td>One Author:</td>
<td>Gray (2002) showed...</td>
<td>amphibian habitat (Semlitsch 2000, Gray 2002)</td>
</tr>
<tr>
<td>Two Authors:</td>
<td>Gray and Smith (2004) showed...</td>
<td>habitat (Semlitsch 2000, Gray and Smith 2004)</td>
</tr>
<tr>
<td>&gt;2 Authors:</td>
<td>Gray et al. (2004) showed...</td>
<td>habitat (Gray et al. 2004, Semlitsch et al. 2004)</td>
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</tbody>
</table>