Chapter 1: Management, Research and Experimental Design

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✉ — Correspondence possible via GitHub Issues

Introduction

What is wildlife science and management?

Seeking truth

Uncertainty

Environmental variation

Linguistic uncertainty

Partial observability

Partial controllability

Structural uncertainty

Opening the Gates of Management and Science

Openness to diversity of knowledge

Open engagement of social actors

Open data

Open source software

Open hardware

Open evaluation

Open science infrastructures

Open educational resources

Basics of Management/Decision Science

Value of Information

Evidence

PrOACT

Management Strategy Evaluation

Adaptive Resource Management

Causation and Inference

Asking the right questions in the right way

Estimation questions

Hypothesis driven research

Exploratory research

Causation and correlation

Sufficient causation

Necessary causation

Manipulative Experiments

Observational Studies

Directed Acyclic Graphs (DAGs)

Confounding variables

Mediator and moderating variables

Basics of Robust Experimental Design

Repetition

Replication

Randomization

Controls

Blocking

Response variables (i.e., performance measures in a decision context)

Basics of Sampling

Probability vs. Non-probability sampling

Defining the population, sampling frame, sampling unit, etc.

Simple random sampling

Stratified random sampling

Systematic sampling

The Publication and Peer Review Process

Determining coauthorship

Choosing the best outlet

Who should review your manuscript?

How to constructively provide feedback as a reviewer?

Responding to reviews

Marketing your manuscript after acceptance

References