Chapter 1: Paper on literature review for movement ecology of birds

Navigating the landscape: movement strategies and decision-making in birds

Advantages of going *straight* forward: movement strategies and decision-making in birds

Idea 1: What do we know about types of movement in birds?

Introduce the relevance of studying movement in wildlife and how different types of movements imply different energy expenditures. Give examples of what has been studied in mammals mostly, and to less extent in birds. Introduce saying that most studies have focused on migration and here we are more interested in daily movements.

Idea 2: What are the types of movement studied in birds and to what behavior are they associated?

Discuss the literature around types of movement. Introduce Brownian movement, Ballistic movement, Levy flights, etc., and in what species or groups these have been documented.

Idea 3: What do we know about ballistic movement in wildlife and birds, and what variables might affect it?

Focus on the relevance of studying Ballistic movement and how this might be different according to different taxa. Introduce the concept of encounter rates. Overview of the literature on this specific movement type in birds. Explore hypothesis or ideas around variables that can affect step length (taxa, feeding guild, environmental productivity, Weather conditions, physiological traits of species (e.g., body mass, wing load), social behavior (social raptors vs non-social species), flight strategy (soaring raptors versus gliders/flappers), landscape variables (including human disturbance?

Idea 4: What are the conservation outcomes/relevance of studying ballistic movement in birds?

Discuss how different types of movements imply different energy expenditures and how this might be relevant for conservation of different species of birds. Introduce energy expenditure for large (heavy raptors), or in low resource-abundance ecosystems (e.g., Arctic ecosystems).

Discuss whether different bird taxa change could change their ballistic movement (movement behavior) in human-dominated landscapes (discuss the concept of landscape of fear for different bird taxa). Review the literature for birds, and if nothing is available include what literature for mammals suggests and infer potential hypothesis for birds. Suggest how this could be an input in landscape planning to reduce population-level impacts and human-wildlife conflict.