Moving between green and black:

Natal dispersal and survival of juvenile Black-Backed Woodpeckers (*Picoides arcticus*)

Mark Kerstens
M.S. student | Forest Animal Ecology Lab

Oregon State University
College of Forestry

The information presented here are preliminary results and do not represent any final conclusions.
Questions to Consider:

What is a Black-Backed Woodpecker?

How are they impacted by breeding in **green** vs **burned** forests?
- Apparent Nest Success
- Juvenile Body Condition
- Juvenile Survival

How do their used nest-sites in **green** forests compare to those in **burned** forests?

How do juveniles disperse and choose breeding habitat on the landscape?
Beetle Kill

Wildfire

Green forest
Data Collection:

- Locate and monitor nests to quantify nest success.
- Record video of adult provisioning behaviors at nests.
- Measure and radio-tag nestlings to quantify survival.
- Measure vegetation at nest sites to assess habitat use and selection.

How do fledgling Black-Backed Woodpeckers differ between green and burned forests?

*Fledgling: young bird that has left the nest and is capable of flight*
Comparing Apparent Nest Success

83% (n=25/30) 86% (n=18/21)

Fledgling Body Condition Index (BCI):
Adjusting body mass by size as a proxy for a bird’s condition
Factors that may influence BCI

Average BCI per Nest

Forest Type

Burned (n=20)  Green (n=19)

Average Number of Birds Fledged

Forest Type

Burned  Green

Average Max Clutch Size

Burn  3.78 +/- 0.66 (n=9)
Green  3.43 +/- 0.62 (n=14)

Black-Backed Woodpecker Apparent Juvenile Survival

Forest Type

Burned  Unburned
Measuring Nestling Provisioning:

Are there differences in overall provisioning rates between **green** and burned forests?

How do males and females provision differently between **green** and burned forests?
How do their used nest-sites in **green** forests compare to those in **burned** forests?

**Quantifying Nest-Site Selection**

How do use vs. available nest-sites compare between **green** forests and **burned** forests?
Decay Class of Used vs. Available Trees

Number of Used or Available Nest Trees

- Burn Random Tree (n=56)
- Green Random Tree (n=42)
- Burn Nest Tree (n=28)
- Green Nest Tree (n=21)

Number of Cavities in Used vs. Available Trees

- Burn Random Tree (n=56)
- Green Random Tree (n=42)
- Burn Nest Tree (n=28)
- Green Nest Tree (n=21)
Natal Dispersal Questions:

Where?
How far?
Are they breeding?

2019-2020 Dispersal Pilot Data:

350 meters from 2019 to 2020
Tracking Movement and Habitat Selection:

- **June 2021:** Tag nestlings
- **August 2021:** Track juveniles
- **October 2021:** Relocate juveniles
- **June 2022:** Relocate adults
Preliminary Conclusions:

How are they impacted by breeding in green vs burned forests?
- Apparent Nest Success → Similar
- Juvenile Body Condition → Potentially improved in green forest
- Juvenile Survival → Similar
- Parental provisioning of nestlings → TBD

How does their use of green forests compare to burned forests?
→ Use different cues to select optimal nest-sites for a given forest

How do juveniles disperse and choose breeding habitat on the landscape?
→ TBD

Acknowledgements:

Questions?