



Bird community response to fire and forest thinning in the Jemez Mountains

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Acknowledgements



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Jemez CFLRP Objectives

1. Reducing the risk of wildfire and restoring natural fire regimes
2. Increasing forest diversity and old growth characteristics
3. Improving fish and wildlife habitat
4. Improving water quality and watershed function
5. Mitigating climate change impacts
6. Protecting cultural resources
7. Utilizing woody byproducts to create local economic development opportunities

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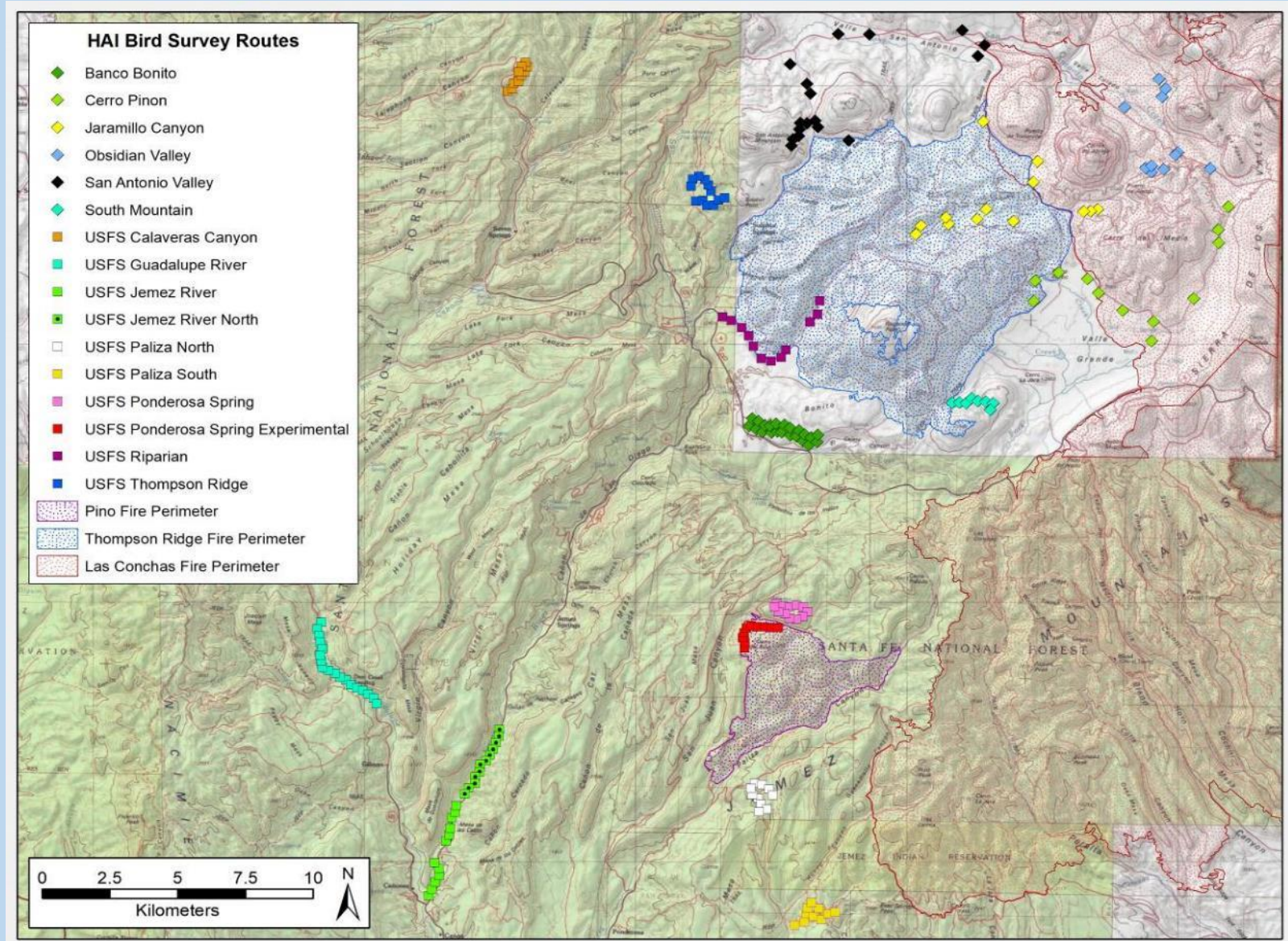
HAI Objectives

- Long-term monitoring effort
 - Evaluate avian use in 8 habitat types
 - Investigate avian use in control and treated habitats
 - Identify species of concern, both at the state and national level

Study Area

Valles Caldera
National Preserve
(NPS)

Santa Fe
National Forest
(USFS)



Catastrophic wildfire

- Los Conchas (2011)
 - 156,000 acres
 - Valles Caldera/Santa Fe National Forest
- Thompson Ridge (2013)
 - 24,000 acres
 - Valles Caldera
- Pino (2014)
 - 4,300 acres
 - Santa Fe National Forest



Methods

- Point counts
 - 125 m radius
 - 10 minutes
 - 3 visits per season
- 16 routes
- 201 points



Habitat Types

- Mixed Conifer
- Mixed Conifer Burn
- Mountain Meadow
- Mountain Valley Grassland
- Mountain Valley Grassland Burn
- Ponderosa Pine
- Ponderosa Pine Burn
- Riparian



Ponderosa Pine

- 2 sites with Ponderosa Pine
 - Banco Bonito
 - Ponderosa Spring



Banco Bonito

- Thinned and burned via Rx

Habitat	Ponderosa Pine (Control)	Ponderosa Pine Burn (Treated)	Total Banco Bonito
Species Richness	48	49	57
Number of detections	1320	1763	3083
Density	1.521	2.105*	1.772



Frequently Encountered Species

Control

Pygmy Nuthatch (15.9%)

Yellow-rumped Warbler (8.3%)

Western Tanager (7.8%)



Treated

Western Wood-Pewee (10.1%)

Pygmy Nuthatch (8.6%)

Western Tanager (8.1%)



Species Differences

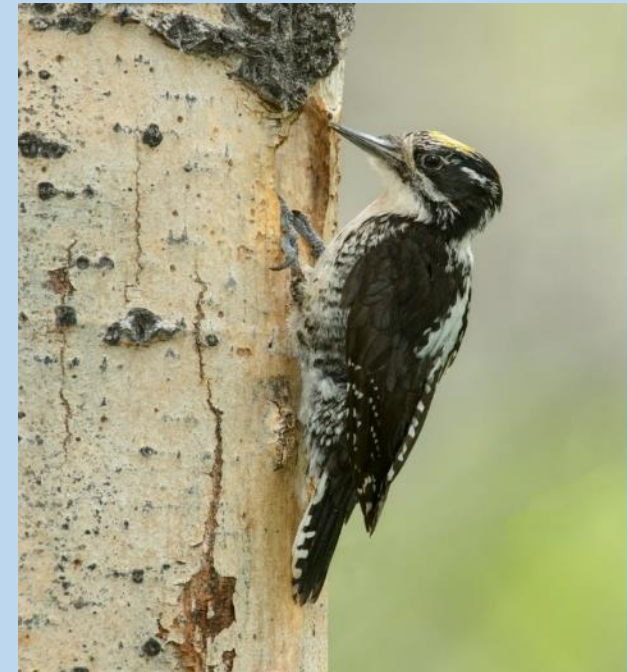
Control

BTYW, CLNU, CONI, NOGO,
RECR, SUTA, WITU



Treated

ATTW, BHCO, DOWO, EABL,
HETA, HOWR, NOPO, RUHU,
WOSJ, WIWA



Ponderosa Spring

- Catastrophic wildfire – Pino fire

Habitat	Ponderosa Pine (Control)	Ponderosa Pine Burn (Experimental)	Total Ponderosa Spring
Species Richness	50	45	57
Number of detections	1077	947	2024
Density	1.527	1.609	1.564



Frequently Encountered Species

Control

Pygmy Nuthatch (14.6%)

Mountain Chickadee (10.6%)

Dark-eyed Junco (7.4%)



Treated

Western Tanager (8.8%)

Yellow-rumped Warbler (7.3%)

American Robin/Hairy WP (6.8%)



Species Differences

Control

BTYW, CAFI, GCKI, GRFL,
MGWA, NAWA, NOGO, OCWA,
OSFL, RNSA, SUTA, WITU

Experimental

ATFL, ATTW, CAKI, GTTO,
RBNU, RECR, RUHU



Species of Conservation Concern

Grace's Warbler



Cassin's Finch



Conclusions

- Rx fire vs catastrophic wildfire
- Density differences
- Species composition



Questions?

