

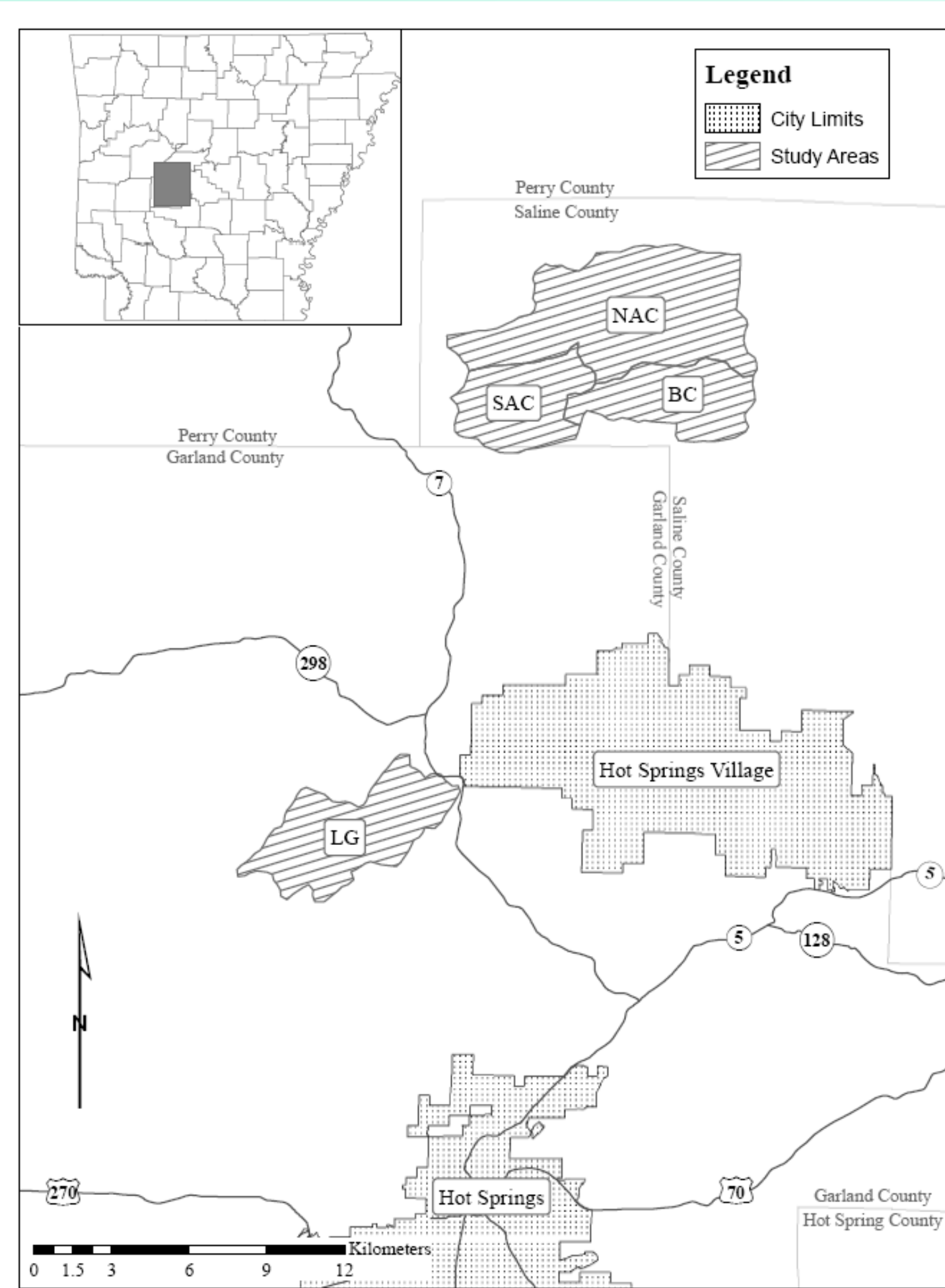
Breeding Bird Community Response to Forest Management Intensity

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Introduction

- Forest management influences habitat structure and function, and may enhance or diminish habitat quality for wildlife species.
- Little information is available that documents breeding bird community response to forest management intensity at a landscape scale.
- Understanding breeding bird community response to silvicultural practices will enable managers to make informed decisions.



Study Areas Ouachita Mountains, Arkansas

- South Alum Creek (3,704 ac)**
USFS land, no recent management
- Bread Creek (3,793 ac)**
USFS land, standard multiple-use management
- North Alum Creek (9,787 ac)**
USFS and Weyerhaeuser lands, mix of public and private forest management
- Little Glazypeau (5,621 ac)**
Weyerhaeuser land, intensive management

Field Methods

BIRDS

- 2,108 bird survey plots
- 5-minute, 50-meter fixed-radius point counts
- May and June, 1995-1998
- 3 observers
- Sunrise to 10:30 hours
- 6,324 samples



HABITAT

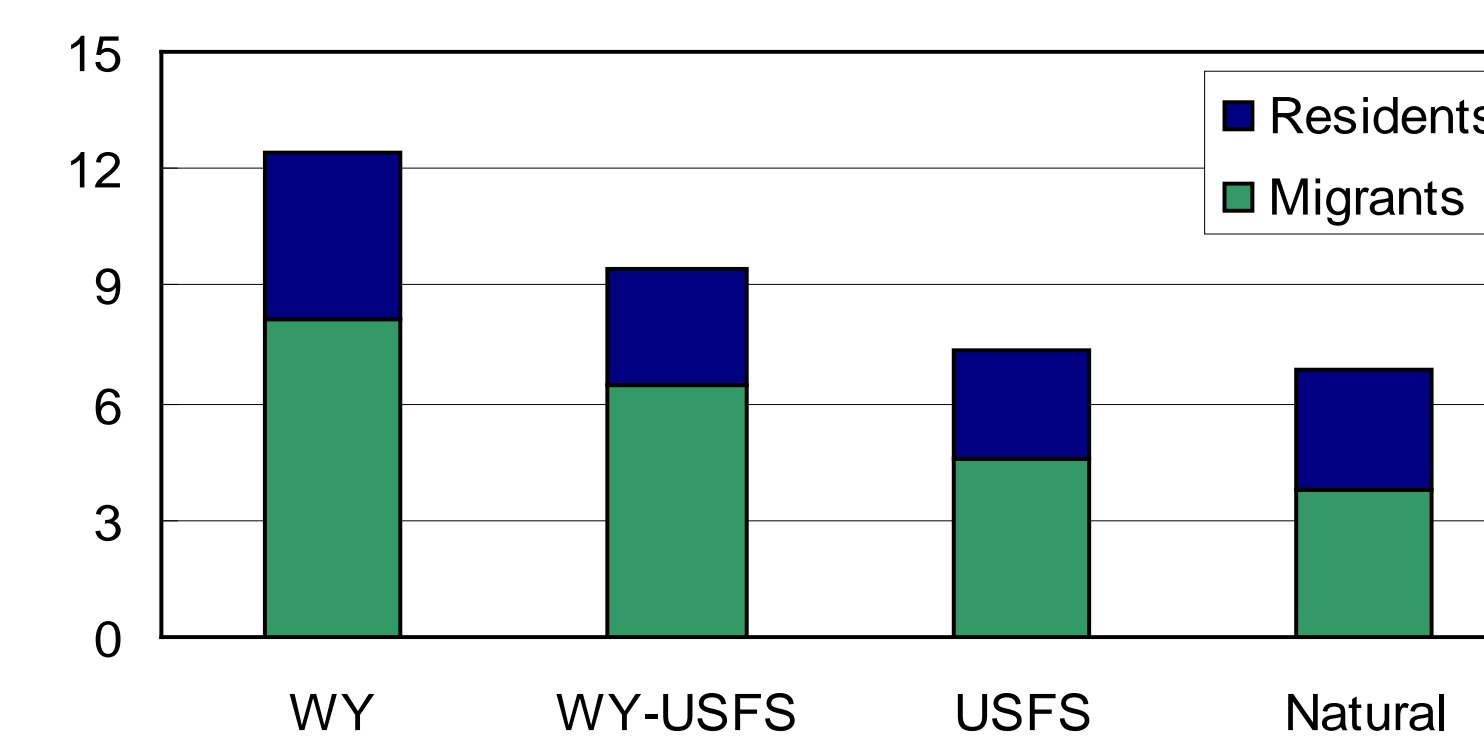
- ~ 525 plots/year
- 200-meter spacing between plots
- Approximately 72 miles of transects/year

Bird Survey Results

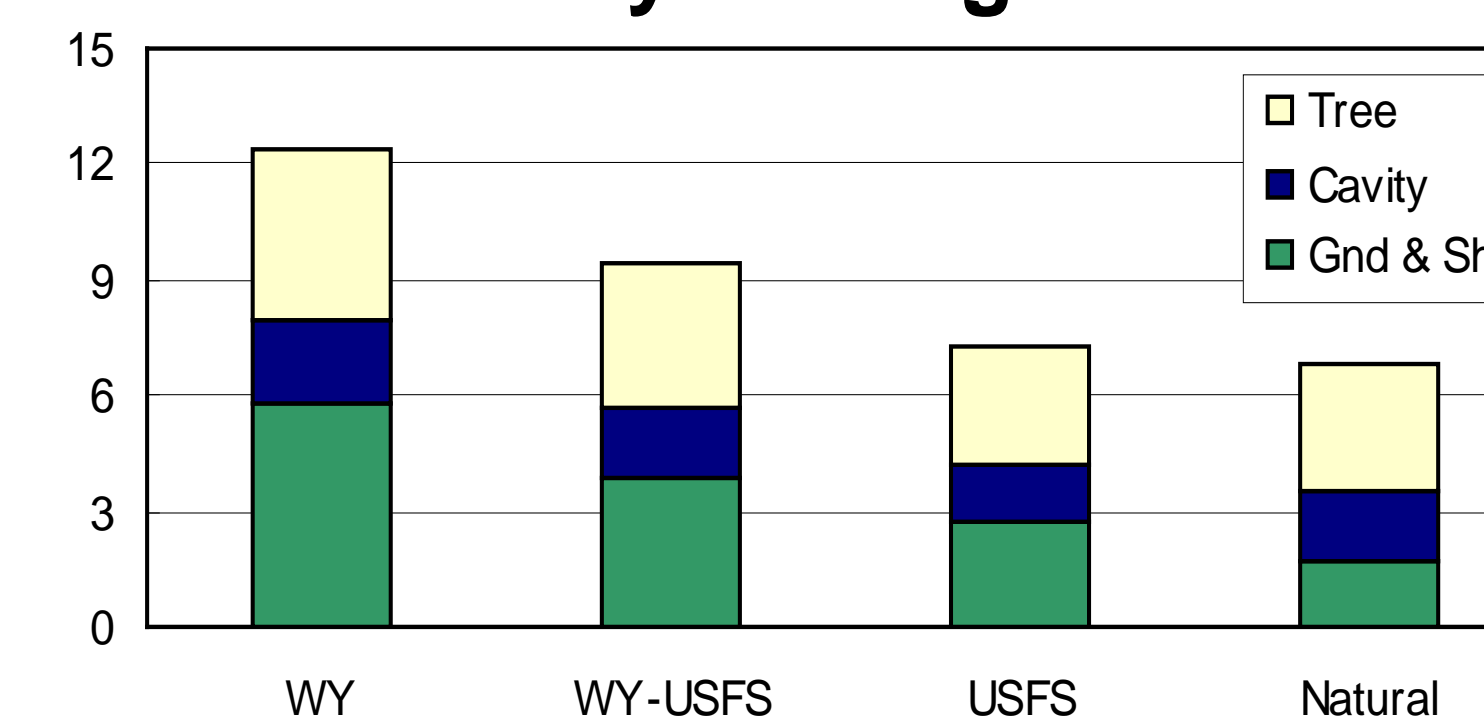
- 18,467 individual bird detections
- 76 breeding species
- 64% migratory birds
- 36% resident birds
- 42% tree nesting birds
- 37% ground & shrub nesting birds
- 21% cavity nesting birds



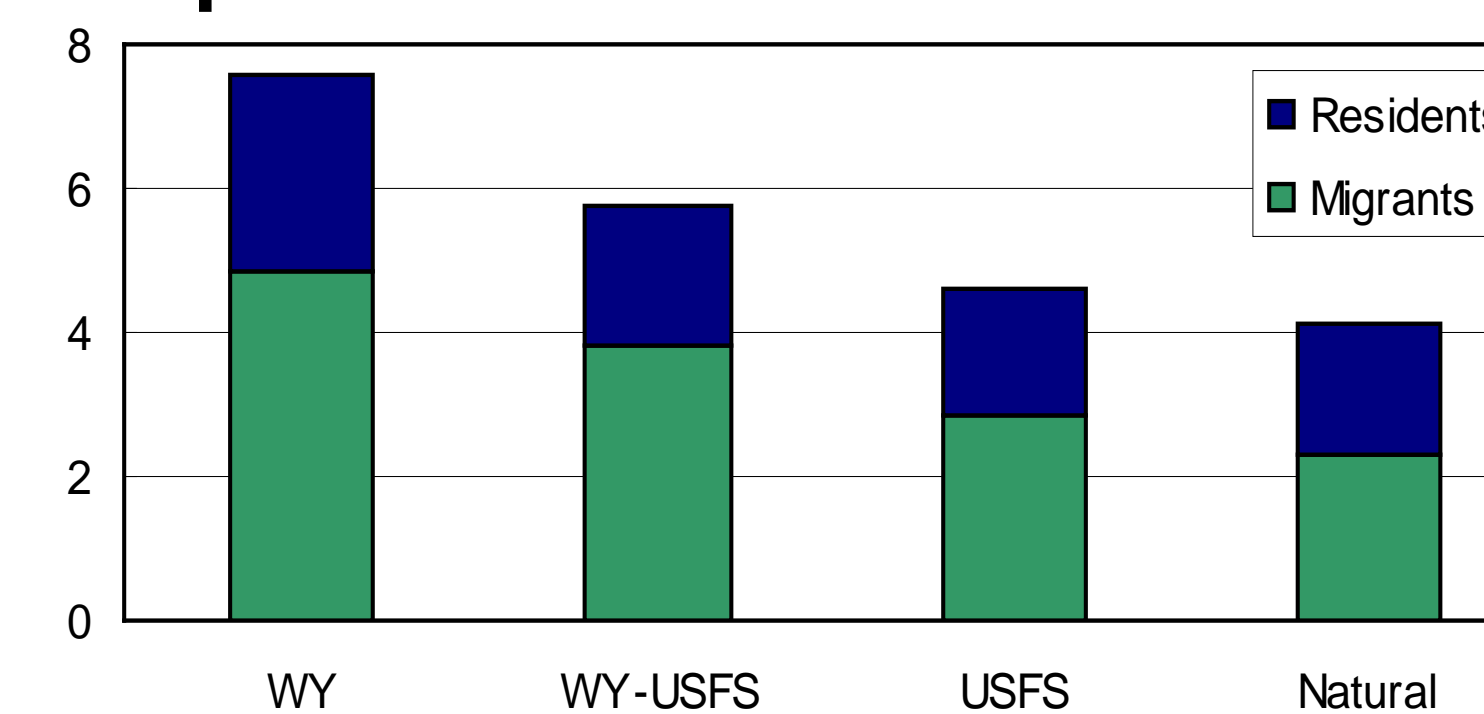
Birds/Plot



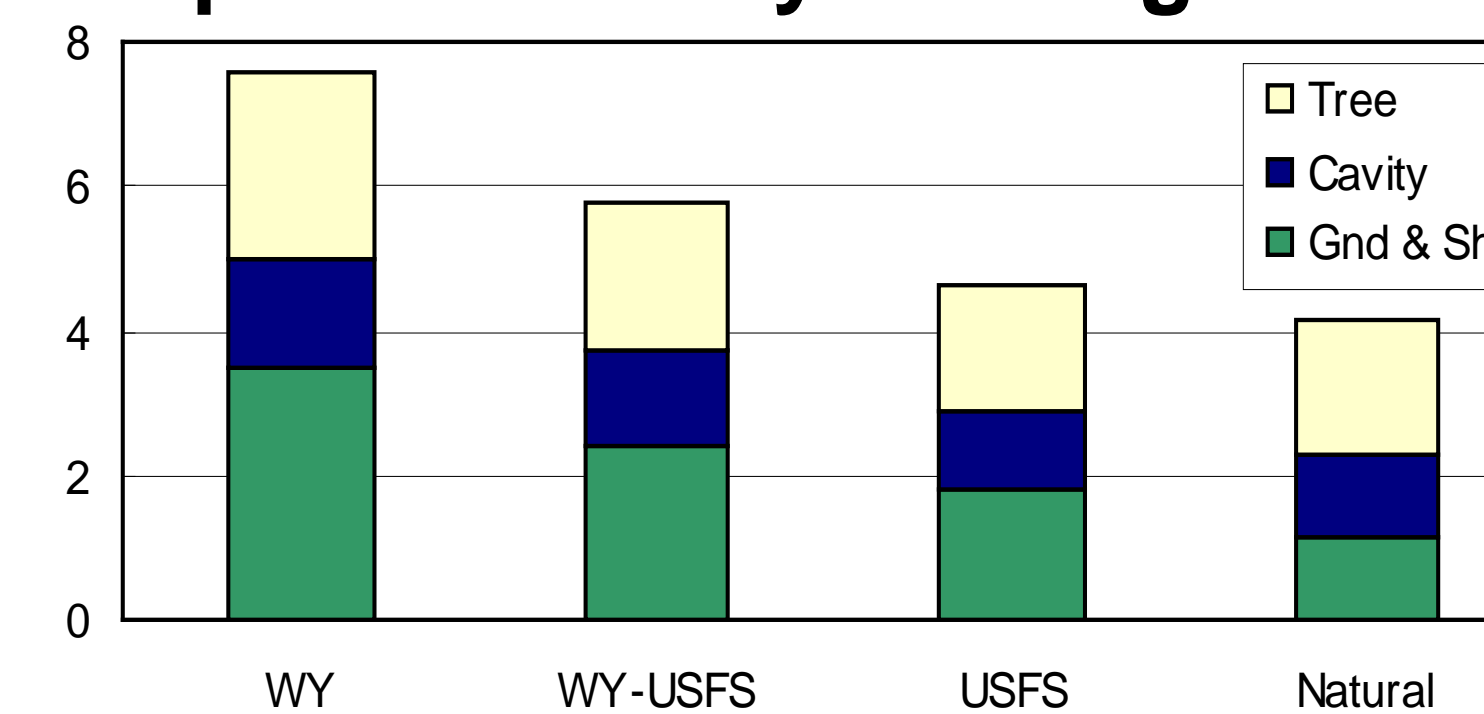
Birds/Plot by Nesting Guild



Species/Plot



Species/Plot by Nesting Guild



Conservation Priority Species PIF Scores ≥ 15

Birds / 100 Plots

Species	WY	WY-USFS	USFS	Natural
Swainson's Warbler	0.4	0.3	-	-
Kentucky Warbler	29.9	11.8	6.9	0.3
Prairie Warbler	55.6	26.3	22.6	0.6
Louisiana Waterthrush	3.3	2.5	2.0	2.8
Orchard Oriole	1.1	-	-	-
Acadian Flycatcher	11.5	9.6	1.6	2.8
Chuck-will's-widow	1.5	0.9	-	0.6
Pileated Woodpecker	8.3	11.4	11.5	17.8
Eastern Wood-Pewee	7.2	2.0	1.3	0.6
White-eyed Vireo	75.6	37.4	14.4	0.9
Black-and-white Warbler	64.0	63.1	42.6	27.3
Carolina Chickadee	56.4	36.3	35.4	31.8
Hooded Warbler	37.2	19.5	3.3	0.9
Wood Thrush	0.6	1.1	0.7	0.6
Worm-eating Warbler	11.5	10.9	5.6	2.8
Northern Bobwhite	4.8	4.5	1.6	0.3
Yellow-billed Cuckoo	7.2	13.4	10.2	4.8
Field Sparrow	19.2	7.3	5.3	0.3
Broad-winged Hawk	2.0	2.5	2.0	3.4
Yellow-throated Vireo	6.3	2.7	1.0	0.6
Summer Tanager	16.5	13.1	7.2	11.6
Priority Birds / 100 Plots	420.1	235.7	142.1	107.1



Conclusions

- Breeding bird abundance and species richness increased with the intensity of forest management in the Ouachita Mountains, Arkansas.
- There were nearly twice as many birds and species per plot in the Weyerhaeuser managed forest as in an unmanaged landscape of natural pine-hardwood forest.
- Conservation priority birds were most abundant in the Weyerhaeuser managed forest.