Implementing CHJV Forest and Woodland Habitat Objectives:
Recommendations for Alabama

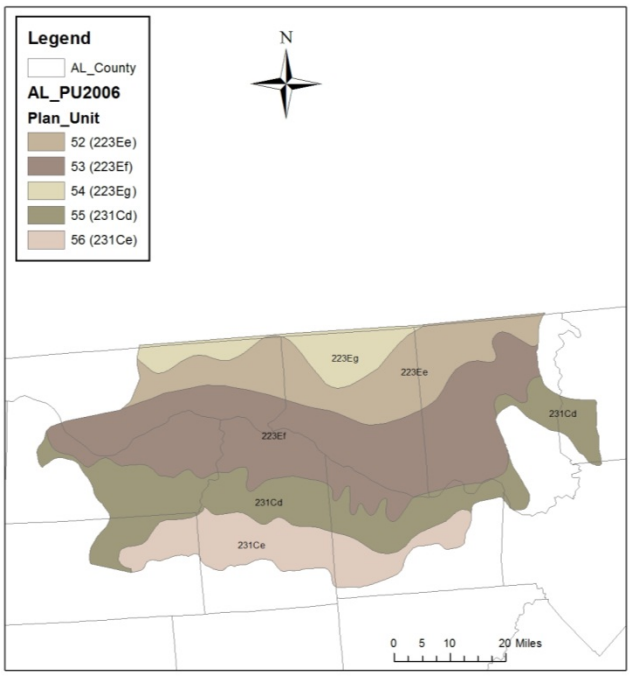
Overview

The Central Hardwoods Joint Venture (CHJV) is a partnership of state and federal government agencies and non-governmental organizations who work together to ensure the long-term viability of native bird populations within the Central Hardwoods Bird Conservation Region (CHBCR). The CHJV pursues this mission by striving towards 2 primary goals: (1) implement conservation actions based on sound science and principals of adaptive management, and (2) target landscapes with the greatest ecological and socioeconomic potential to support viable populations of priority birds. In pursuit of these goals the CHJV Staff and cooperators have developed a suite of decision support tools (DSTs) aimed at assessing habitat conditions, linking bird populations to habitat condition, forecasting potential future habitat conditions, and simulating population impacts of conservation scenarios.

CHJV partners have produced population objectives for priority forest and woodland associated bird species. CHJV staff have used the DSTs to estimate the amount of habitat restoration needed to support those populations and allocated the habitat objectives to State sub-regions and the conservation actors (i.e. agencies) within them. Uncertainty in the allocation process requires an iterative and adaptive approach to translating CHBCR objectives into an implementation plan (i.e. on-the-ground projects). This document builds off the Implementation Framework document by summarizing DST and other information to help partners within the Alabama sub-region develop the strategic (where to work) and tactical (what work to do) components of their implementation plan.

Planning Units

The CHJV uses Bailey's ecological subsections as planning units. Alabama is divided into 5 planning units (map at right). Table 1 ranks each unit relative to others within Alabama on attributes relevant to conservation planning, and each attribute is mapped in Figures 1-10. Table 2 lists the calculated habitat objectives by natural community type, along with information on forested area, proportion of public ownership and an estimate of area in condition for each community.



From a CHBCR perspective, Alabama has some relatively important areas for the woodland, and riparian bird groups. Planning Unit 54 (Western Highland Rim – 223Eg) was identified as a source landscape for Wood Thrush, Worm-eating Warblers, and Prairie Warblers by the CHJV population viability model. Both unit 54 and 55 have moderate levels of forest cover and other natural cover types, in general the Alabama sub-region is heavily impacted by urbanization and forest loss.

Table 1. The 5 planning units (i.e. landscapes) within the Alabama sub-region and their relative rank based on attributes relevant to conservation planning. Units are ranked from “1” (best) to “5” (worst) relative to conservation perspective. A composite rank will not be calculated until partners determine which attributes are most important.

Plan Unit	Subsection	Short Name	ST	Public [a]	Natural-ness [a]	In Condition [a]	Forest Proportion [a]	GPI [a]	Forest Loss ('01-'06) [a]	Urban 2030 [a]	Ensemble Model Scores [a]		
											Woodland	Forest	Riparian
52	223Ee	Highland Rim	AL	4	3	4	4	4	3	5	4	3	3
53	223Ef	Tennessee-Gasper Valley	AL	1	4	3	5	5	5	1	5	4	4
54	223Eg	W. Pennyroyal Karst Plain	AL	5	1	1	2	2	1	3	1	1	2
55	231Cd	Sandstone Mountain	AL	2	2	2	1	1	4	2	2	2	1
56	231Ce	Moulton Valley	AL	3	5	5	3	3	2	4	3	5	5

[a] Attributes are defined as the quantity of protected lands (Public), overall landscape conditions (Naturalness), extant forest community conditions (In Condition), quantity of forested (i.e. restorable) lands (Forest Proportion), forest fragmentation / avian productivity (GPI), forest loss from 2001-2006 (Loss), urbanization threat (Urban 2030), and current capacity-productivity weighted ensemble model scores for suites of birds. Full definitions are available in the companion Framework document.

Table 2. CHJV Habitat Objectives (targets) by planning unit and natural community type for public lands and for the entire units, along with information on forested area, proportion of public ownership and an estimate of area in condition for each community.

Plan Unit	Acreage Estimate Class	Savanna / Barrens	Glade / Savanna Mosaic (< 20% canopy)	Oak Open Woodland (20-50% canopy)	Oak Closed Woodland (50-80% canopy)	Pine / Bluestem Open Woodland (20-50% canopy)	Pine / Oak Closed Woodland (50-80% canopy)	Forest (> 80% canopy)	Floodplain Forests	Total Area
52	Forested/Restorable	28,933	-	16,749	23,195	-	-	21,034	26,401	116,313
	Protected	-	-	27	11	-	-	19	8	65
	Plan Unit Target (10 sp)	7,107	-	1,472	1,787	-	-	3,233	2,763	16,362
	Plan Unit Target (21 sp)	15,870	-	3,281	4,094	-	-	4,218	7,999	35,462
	Public Target (10 sp)	-	-	27	11	-	-	19	8	65
	Public Target (21 sp)	-	-	27	11	-	-	19	8	65
	In Character/Restored	13,113	-	-	4,438	-	-	4,750	7,437	29,737
	Public In Character	-	-	-	-	-	-	-	4	4
53	Forested/Restorable	22,201	54	23,616	31,064	1	8	26,129	95,960	199,032
	Protected	12,841	-	4,499	3,676	-	-	11,045	33,258	65,319
	Plan Unit Target (10 sp)	7,341	37	2,673	2,661	0	0	4,897	22,883	40,492
	Plan Unit Target (21 sp)	16,394	81	5,958	6,097	1	1	6,389	66,244	101,165
	Public Target (10 sp)	7,341	-	2,673	2,661	-	-	4,897	22,883	40,455
	Public Target (21 sp)	12,841	-	4,499	3,676	-	-	6,389	33,258	60,664
	In Character/Restored	13,590	-	-	7,823	-	-	7,234	40,260	68,908
	Public In Character	2,272	-	-	666	-	-	1,570	9,302	13,811
54	Forested/Restorable	7,422	-	7,338	23,980	-	-	21,052	11,073	70,865
	Protected	-	-	-	-	-	-	-	-	-
	Plan Unit Target (10 sp)	1,458	-	487	1,467	-	-	1,836	1,334	6,583
	Plan Unit Target (21 sp)	3,255	-	1,086	3,362	-	-	2,396	3,863	13,961
	Public Target (10 sp)	-	-	-	-	-	-	-	-	-
	Public Target (21 sp)	-	-	-	-	-	-	-	-	-
	In Character/Restored	2,421	-	-	9,223	-	-	5,153	2,491	19,287
	Public In Character	-	-	-	-	-	-	-	-	-

Plan Unit	Acreage Estimate Class	Savanna / Barrens	Glade / Savanna Mosaic (< 20% canopy)	Oak Open Woodland (20-50% canopy)	Oak Closed Woodland (50-80% canopy)	Pine / Bluestem Open Woodland (20-50% canopy)	Pine / Oak Closed Woodland (50-80% canopy)	Forest (> 80% canopy)	Floodplain Forests	Total Area
55	Forested/Restorable	393	4,405	22,811	123,854	12,027	12,735	37,991	53,835	268,052
	Protected	97	16	248	1,544	-	-	1,354	7,471	10,730
	Plan Unit Target (10 sp)	66	3,122	2,565	7,077	1,342	1,014	3,780	6,149	25,116
	Plan Unit Target (21 sp)	148	6,855	5,716	16,216	18,786	3,332	4,932	17,802	73,787
	Public Target (10 sp)	66	16	248	1,544	-	-	1,354	6,149	9,377
	Public Target (21 sp)	97	16	248	1,544	-	-	1,354	7,471	10,730
	In Character/Restored	133	-	-	27,786	11	-	13,507	17,313	58,750
	Public In Character	24	-	-	152	-	-	377	2,633	3,186
56	Forested/Restorable	275	112	44,252	14,028	1,193	1,980	6,851	28,632	97,322
	Protected	-	-	6	28	-	-	91	1	125
	Plan Unit Target (10 sp)	13	79	5,863	1,016	190	224	604	3,123	11,112
	Plan Unit Target (21 sp)	28	172	13,066	2,329	2,662	737	788	9,042	28,824
	Public Target (10 sp)	-	-	6	28	-	-	91	1	125
	Public Target (21 sp)	-	-	6	28	-	-	91	1	125
	In Character/Restored	1	-	-	1,874	14	-	2,763	13,132	17,783
	Public In Character	-	-	-	19	-	-	61	-	80
Total	Forested/Restorable	59,225	4,570	114,765	216,121	13,220	14,723	113,057	215,901	751,584
	Protected	12,938	16	4,781	5,258	-	-	12,509	40,738	76,240
	Plan Unit Target (10 sp)	15,984	3,238	13,060	14,008	1,533	1,239	14,350	36,253	99,664
	Plan Unit Target (21 sp)	35,695	7,109	29,106	32,097	21,449	4,071	18,723	104,949	253,199
	Public Target (10 sp)	7,407	16	2,955	4,243	-	-	6,361	29,041	50,023
	Public Target (21 sp)	12,938	16	4,781	5,258	-	-	7,853	40,738	71,585
	In Character/Restored	29,258	-	-	51,144	25	-	33,406	80,633	194,466
	Public In Character	2,296	-	-	837	-	-	2,008	11,939	17,080

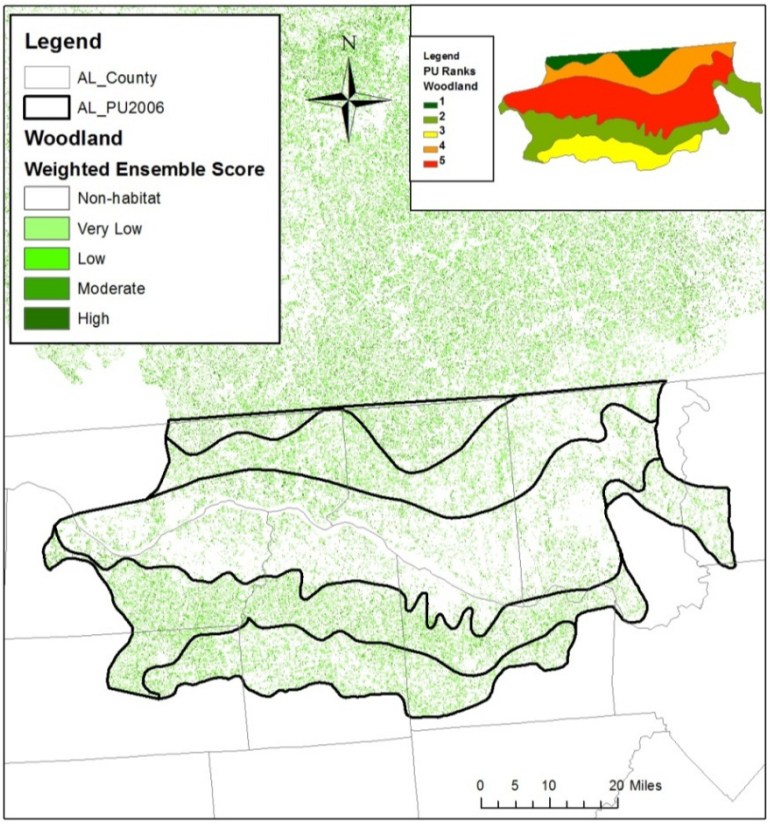


Figure 1. (Q2) Raw scores from the combination of Woodland species habitat models (n=7) weighted by the priority class of each species. Mean scores for each planning unit were used to produce ranks (inset) from high (1) to low (5).

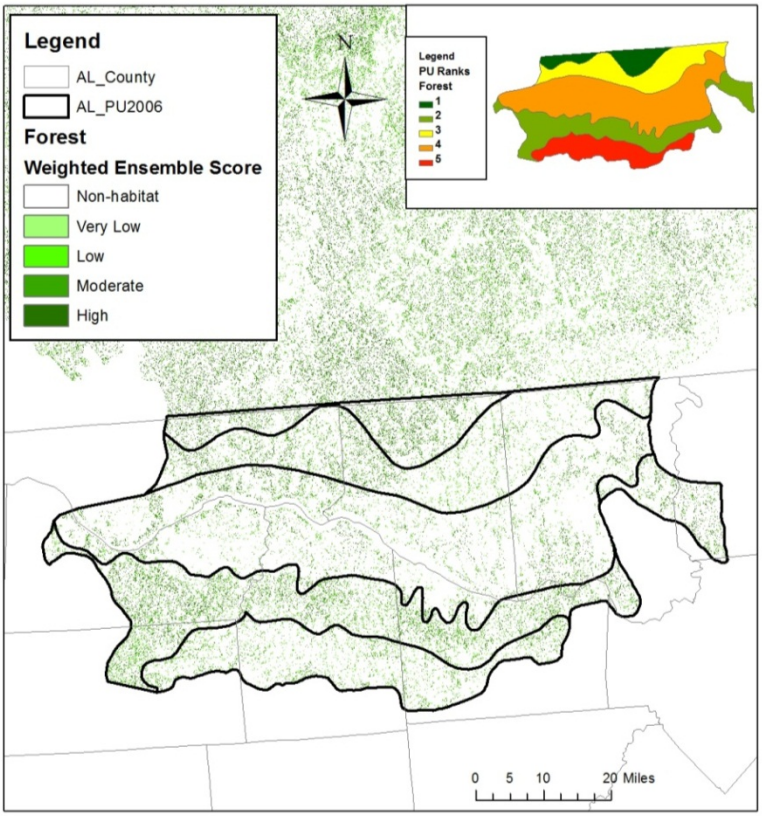


Figure 2. (Q2) Raw scores from the combination of Forest species habitat models (n=7) weighted by the priority class of each species. Mean scores for each planning unit were used to produce ranks (inset) from high (1) to low (5).

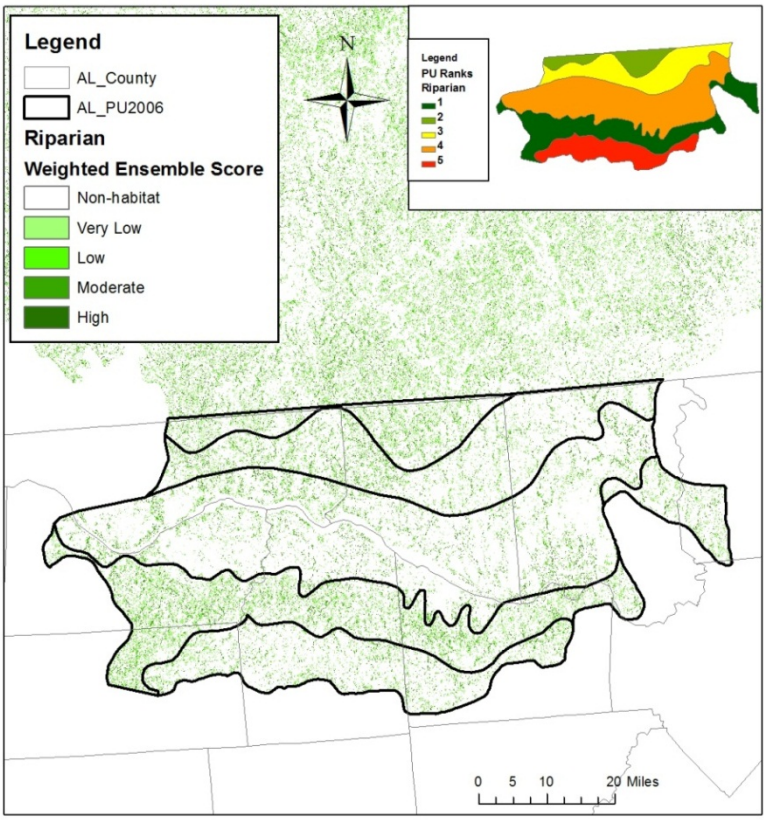


Figure 3. (Q2) Raw scores from the combination of Riparian species habitat models (n=4) weighted by the priority class of each species. Mean scores for each planning unit were used to produce ranks (inset) from high (1) to low (5).

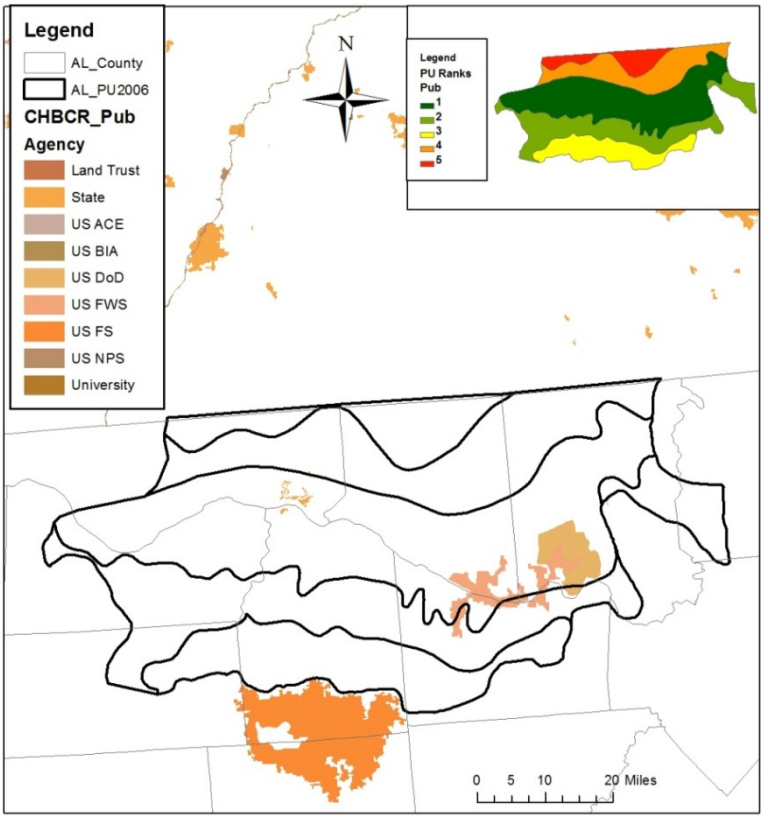


Figure 4. (Q3) Distribution of public lands within the Alabama Sub-region by agency or organization. Total area of public ownership for each planning unit was used to produce ranks (inset) from high (1) to low (5).

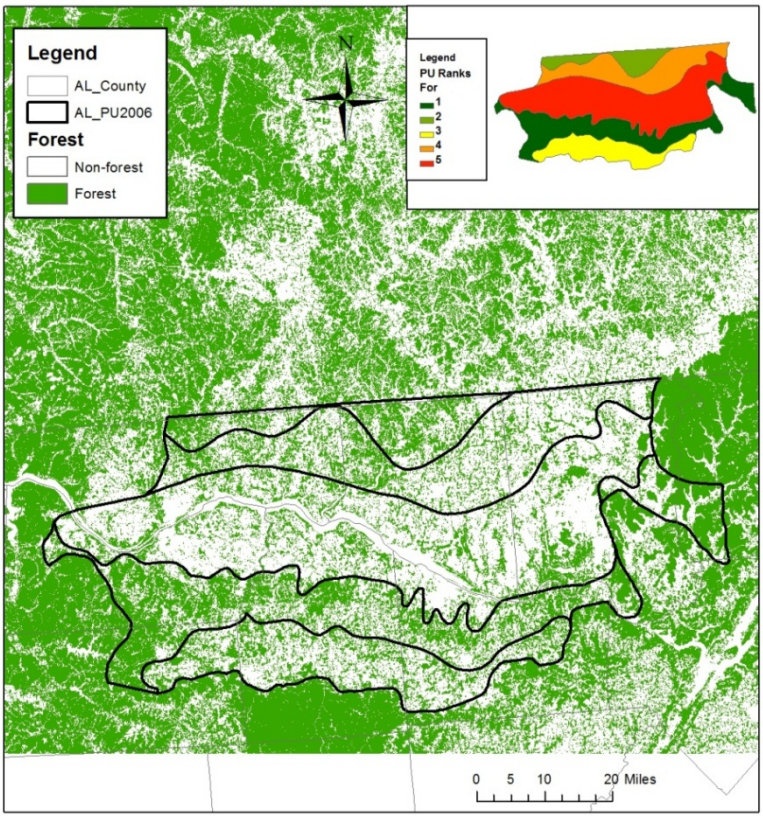


Figure 5. (Q4) Distribution of lands classified as a forested type within the Alabama Sub-region by the 2006 NLCD. Proportion of forested land for each planning unit was used to produce ranks (inset) from high (1) to low (5).

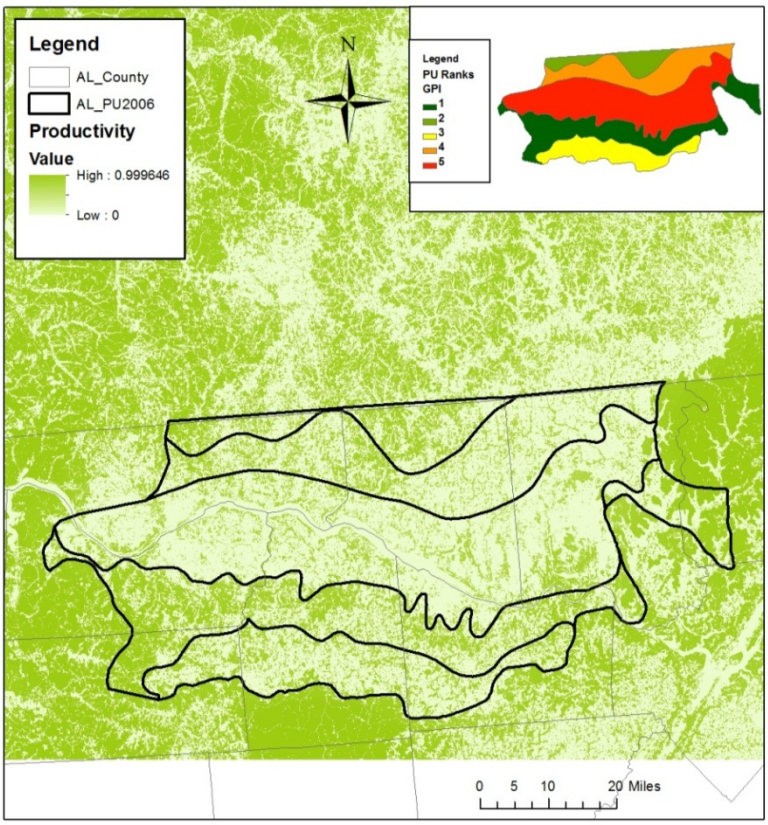


Figure 6. (Q4) Fragmentation of forested lands as measured by the General Productivity Index within the AL Sub-region. Mean index score on forested lands for each planning unit was used to produce ranks (inset) from high (1) to low (5).

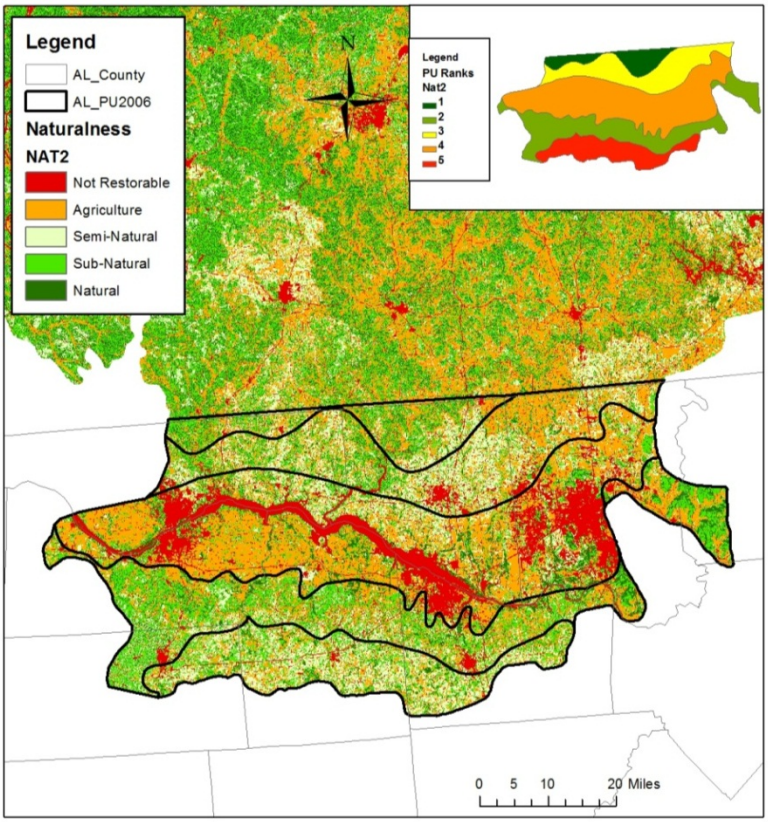


Figure 7. (Q4) Classification of the relative naturalness of lands within the Alabama Sub-region following Ferrari et al. 2008. Proportion of each planning unit in the "Natural" class was used to produce ranks (inset) from high (1) to low (5).

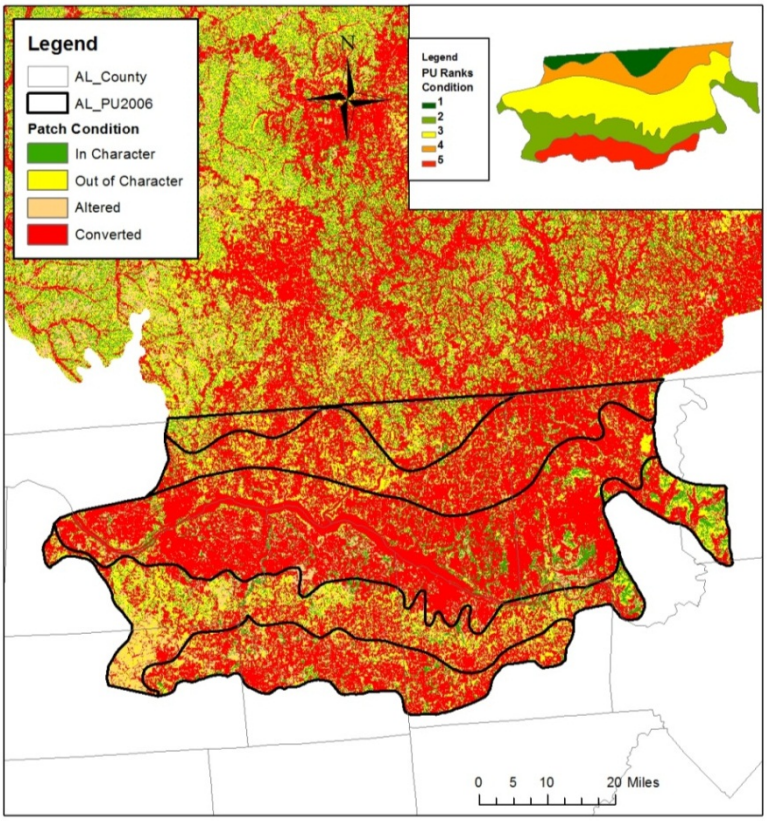


Figure 8. (Q4) Comparison between current and expected landscape patch conditions within the Alabama Sub-region. Proportion of each planning unit in the "In Character" class was used to produce ranks (inset) from high (1) to low (5).

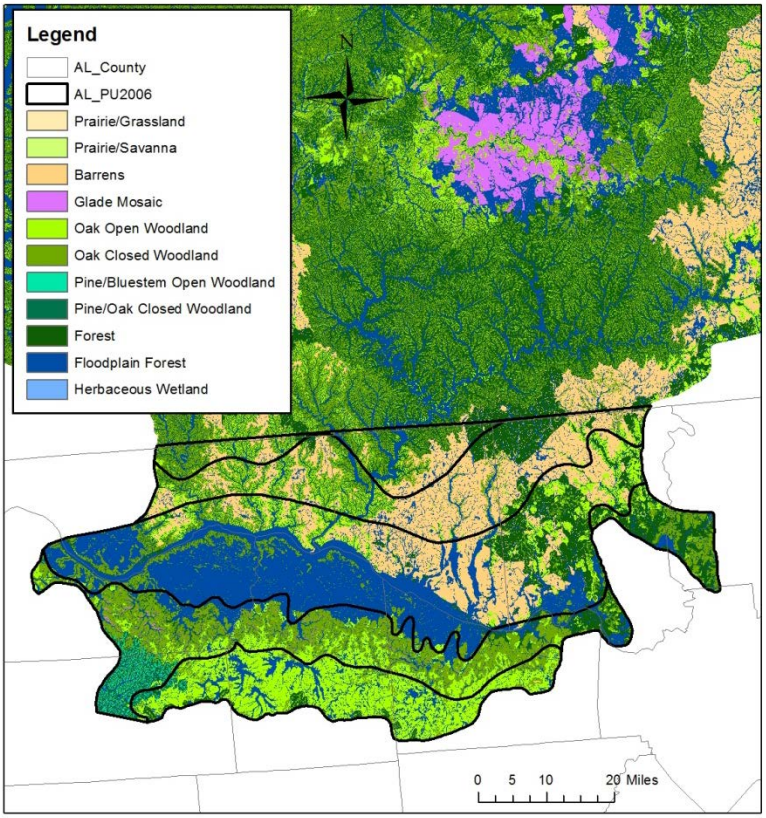


Figure 9. (Q5) The distribution of sites suitable for the restoration of broad natural communities within the AL Sub-region.

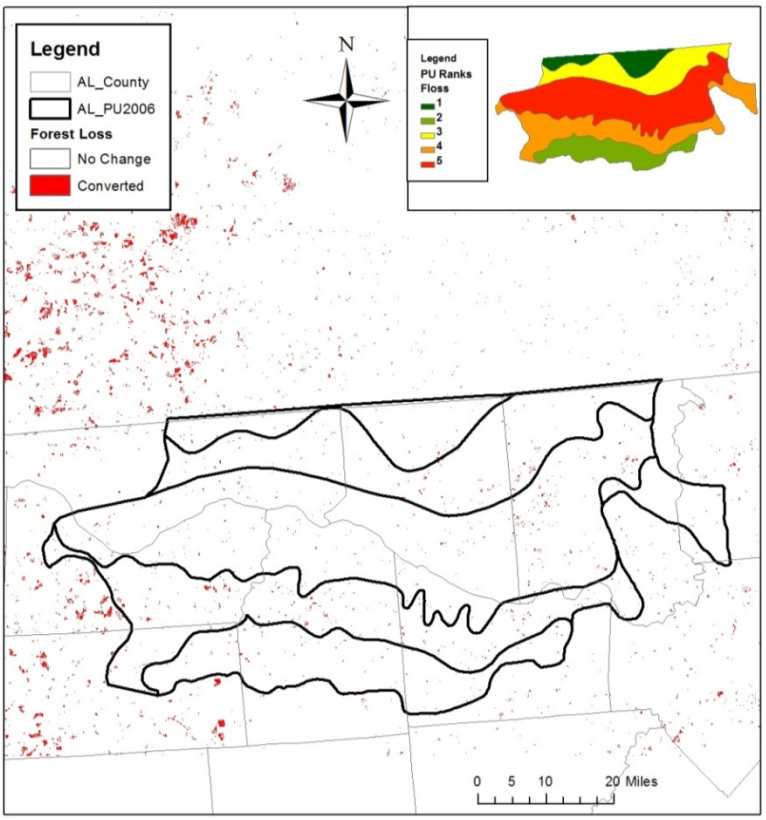


Figure 10. (Q6) Locations where cover class changed from a forest type to a non-forest type in 2006 within the AL Sub-region. Proportion of forest converted in each planning unit was used to produce ranks (inset) from low (1) to high (5).

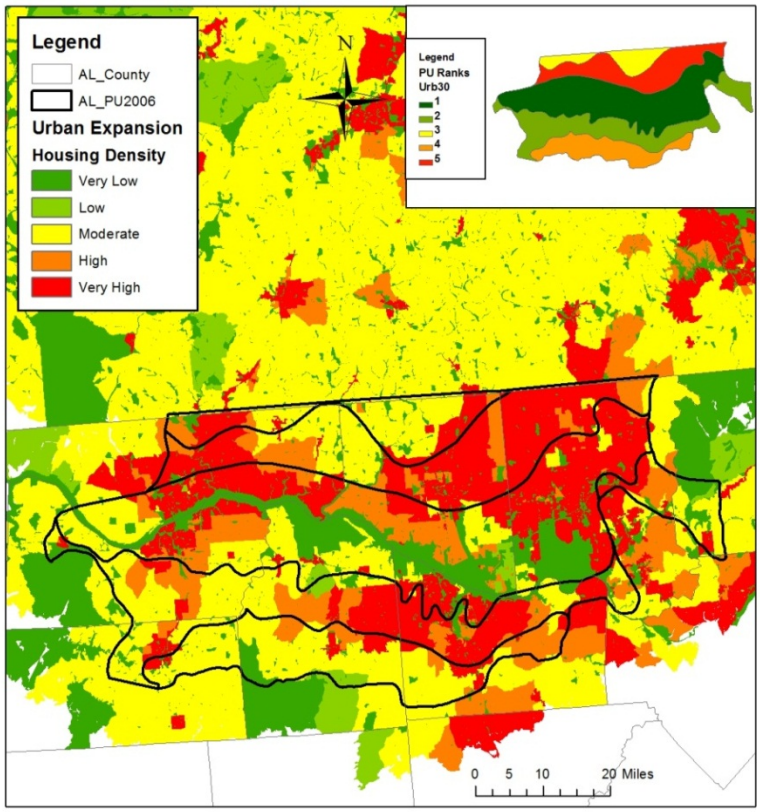


Figure 11. (Q6) The relative impact of current and projected housing density on management actions within the AL Sub-region. Proportion of each planning unit in the "Very Low" class was used to produce ranks (inset) from high (1) to low (5).