

MAPPING THE SOUTH'S FORESTS OF THE FUTURE

SUMMARY IN BRIEF

May 2018

Forest lands in the Southern States provide important ecological, social, and economic services from clean water and wildlife habitat to recreational opportunities and wood products. As the South's population grows, development and related socio-economic factors will continue to exert pressure on our remaining forest resources with a forecasted net loss of 11 to 23 million acres of forestland to other land use by 2060 (see Southern Forest Futures Project¹). To prevent large-scale conversion to non-forest use, many organizations have focused their efforts on forest protection and reforestation, prioritizing forest connectivity, rare and sensitive ecosystems, working forests, and resilient landscapes for funding. However, with a plethora of organizations developing large-scale conservation plans relevant to their own missions and constraints, there is a critical need to integrate forest conservation priorities across planning efforts into a single map of current and potential future forest in the South.



Fig. 1. Project study area.

To address this need, the Mapping the South's Forests of the Future project leveraged the existing regional and partnership-driven conservation planning to produce a comprehensive geospatial inventory of planned and prioritized areas of forest protection/retention and restoration. This included compilation of geospatial elements targeting forest retention into a comprehensive map of future extent and location of retained forests, reflecting a gradient of uncertainty over time.

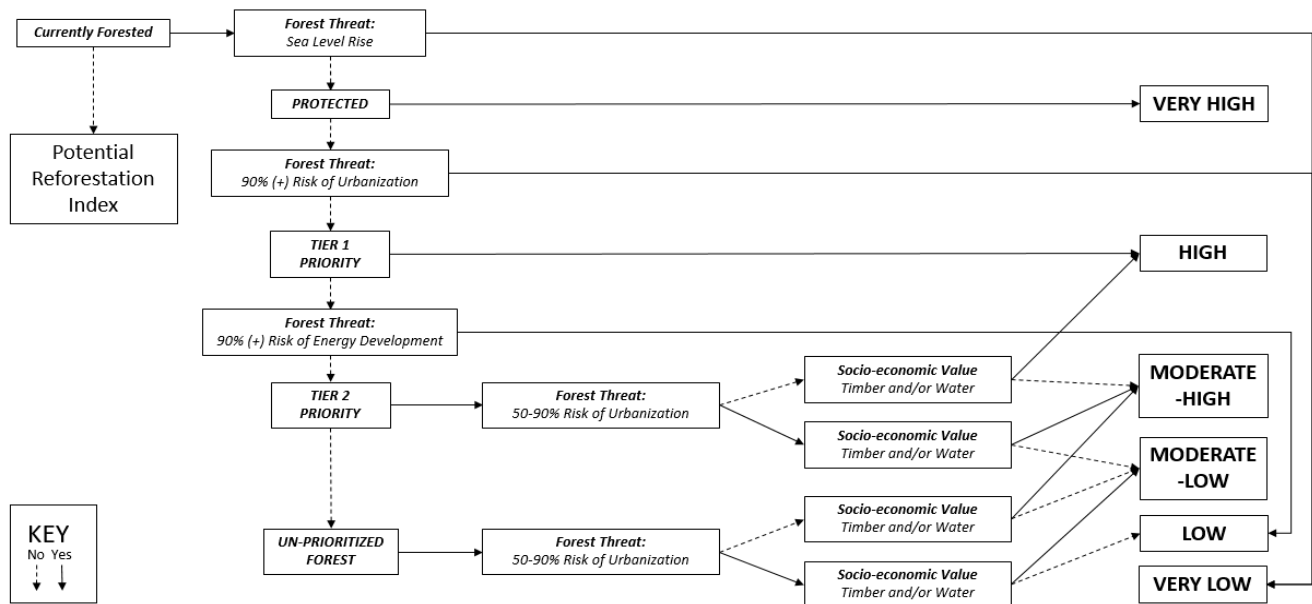


Fig. 2. Binary decision tree process used to derive values for the Forest Retention Index.

¹ Wear, D. N., and J. G. Greis. 2013. The Southern Forest Futures Project. Gen. Tech. Rep. SRS-178. USDA Forest Service, Southern Research Station: Asheville, North Carolina.

Project investigators engaged 50 conservation partners to assist identification and acquisition of planned and prioritized areas for forest retention, as well as vetting and reviewing mapping methods and deliverables. Geospatial data included current protected lands; state, federal, and non-governmental prioritized lands for forest protection; threats to forest retention (e.g., urbanization, sea level rise, energy development); forestlands of high socio-economic value (e.g., timberlands and forests important to water quality); and reforestation opportunities on marginal agricultural lands and restorable wetlands. Data were used to develop two qualitative indices – the Forest Retention Index and the Potential Reforestation Index, to provide a gradient of future forest retention and reforestation likelihood (Very High to Very Low) based on conservation status and interest, forest threats, socio-economic value of forests, and reforestation opportunities.

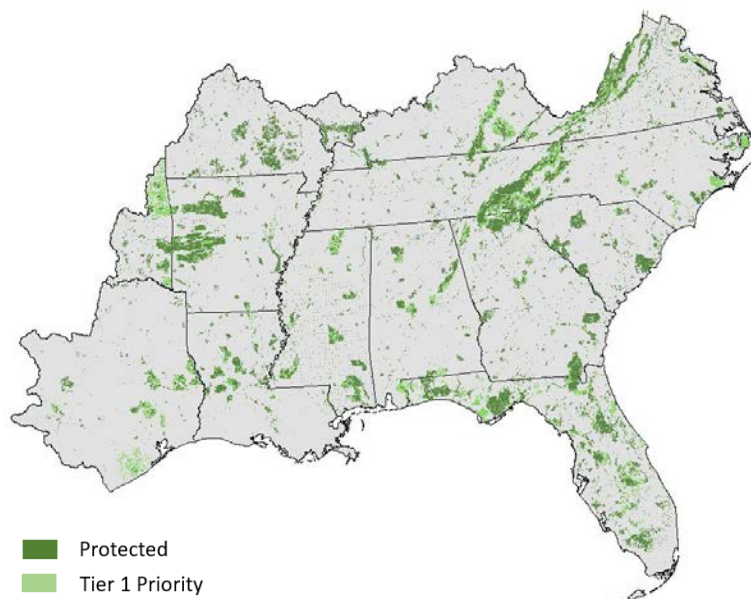


Fig. 3. Existing protected forest lands and Tier 1 priority forest lands (i.e., areas planned for forest retention).

Key findings include:

- An estimated 147.7 mil acres of forest are projected to be retained, and 4.6 mil acres are projected to be reforested with high and very high likelihood out to 2060.
- Protected lands currently occupy 48.6 mil acres (36.3 mil acres forested, 4.6 mil acres can be reforested).
- Nearly half of all forestland is classified as High on the Forest Retention Index.
- Some states (e.g., Georgia, Mississippi, Oklahoma, Illinois, and Florida) show a projected decline in forestland classified as High, particularly between 2030 and 2040.
- By 2060, nearly 18 million acres are at high risk of being deforested (Forest Retention Index classes Low and Very Low).
- North Carolina, Georgia, and South Carolina had the greatest increases in forestland classified as Very Low by 2060 with high total potential forestland loss.
- Approximately 3 mil acres with high biodiversity are protected, and 4 mil additional high biodiversity acres are classified as High on the Forest Retention Index.

Table 1. Forest lands (ac, % of forested study area) stratified by Forest Retention Index class.

	ac	%	ac	%
Very High	36.07	15.2	35.74	15.1
High	117.93	49.9	103.13	43.7
Moderate-High	52.85	22.4	58.74	24.9
Moderate-Low	22.39	9.5	20.95	8.9
Low	0.26	0.1	0.32	0.1
Very Low	6.83	2.9	17.38	7.4

The Mapping the South's Forests of the Future builds upon the work of the USFS Southern Forest Futures Project to identify areas of existing, planned and prioritized forest retention and reforestation in the Southern U.S. Much like any other planning effort, it is important to use tools like this to identify areas to target forest retention efforts, particularly as landscapes are subject to rapid conversion to development, and volatility in timber markets increases risk

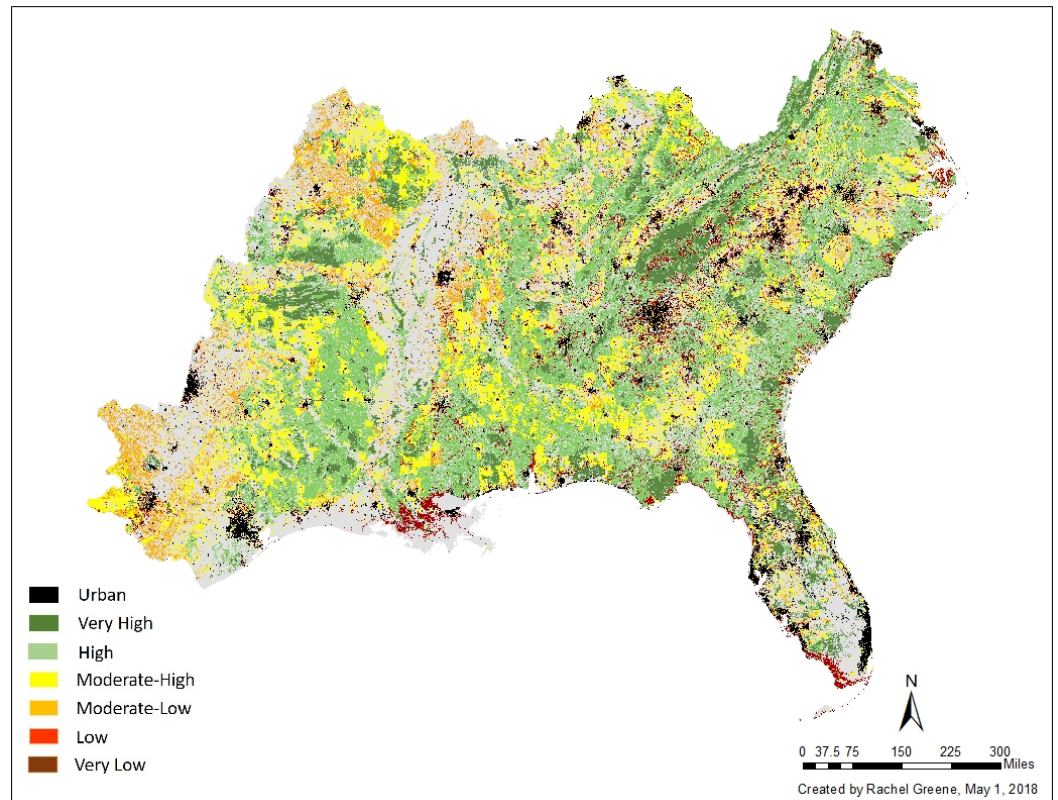


Fig. 4. Map of Forest Retention Index values for 2060, where areas in dark and light green represent very high and high likelihood for future forest retention.

in private forestland timber production. This tool provides a collaborative, transparent, and defensible mapping product that can aid in identification of key watershed areas where retaining forests is critical to ecological and socio-economic integrity in the South. Other initiatives, such as the Keeping Forests as Forests Initiative and the Partnership for Southern Forestland Conservation, can further build upon this tool in their collaborative planning efforts. Moreover, other conservation planning efforts, such as the Southeastern Conservation Adaptation Strategy, may find this tool complimentary to their efforts to identify the most sustainable network of lands and waters to target for conservation efforts in the future.

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All data and supporting documentation will be made available at <https://gcpolcc.databasin.org/galleries/337b2c3c457c4e828cf8101dbcb52409>

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