

Maryland Forests: Opportunities for Climate Solutions

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Climate-adapted Forestry



Building resilience with nature-based solutions, native forest cover

- *Resistance* to disturbances
 - Diverse species
 - Diverse ages
 - Complex structure
 - Drought-tolerant tree density
- *Resilience* following disturbances
 - Multiple layers
 - Actively regenerating for future healthy forest (manage deer browse)
- *Transitioning* to new conditions- salt, water, temperatures
 - Potential for southern species

Forest Carbon Portfolio

- **Older/Reserved forests** – high storage, mortality up
- **Mature forests**- high storage, use forest management to build diversity/resilience in forest ages and stages
- **Young forests**- low storage, high growth (tomorrow's carbon sequestration)
- The forest management bonus:

Mosaic for **wildlife habitat**, more old and young forests

Expanded forest cover with more markets

Drought resistance from better spacing for healthier trees

Harvested wood products **extend carbon storage benefits**

Thinning to grow larger trees= long-lived wood products

Woody Biomass- use remnants from durable wood production, displace fossil fuel, create local jobs, adopt clean new technology

Biochar/Bedding/Mulch- build soil health and soil carbon storage

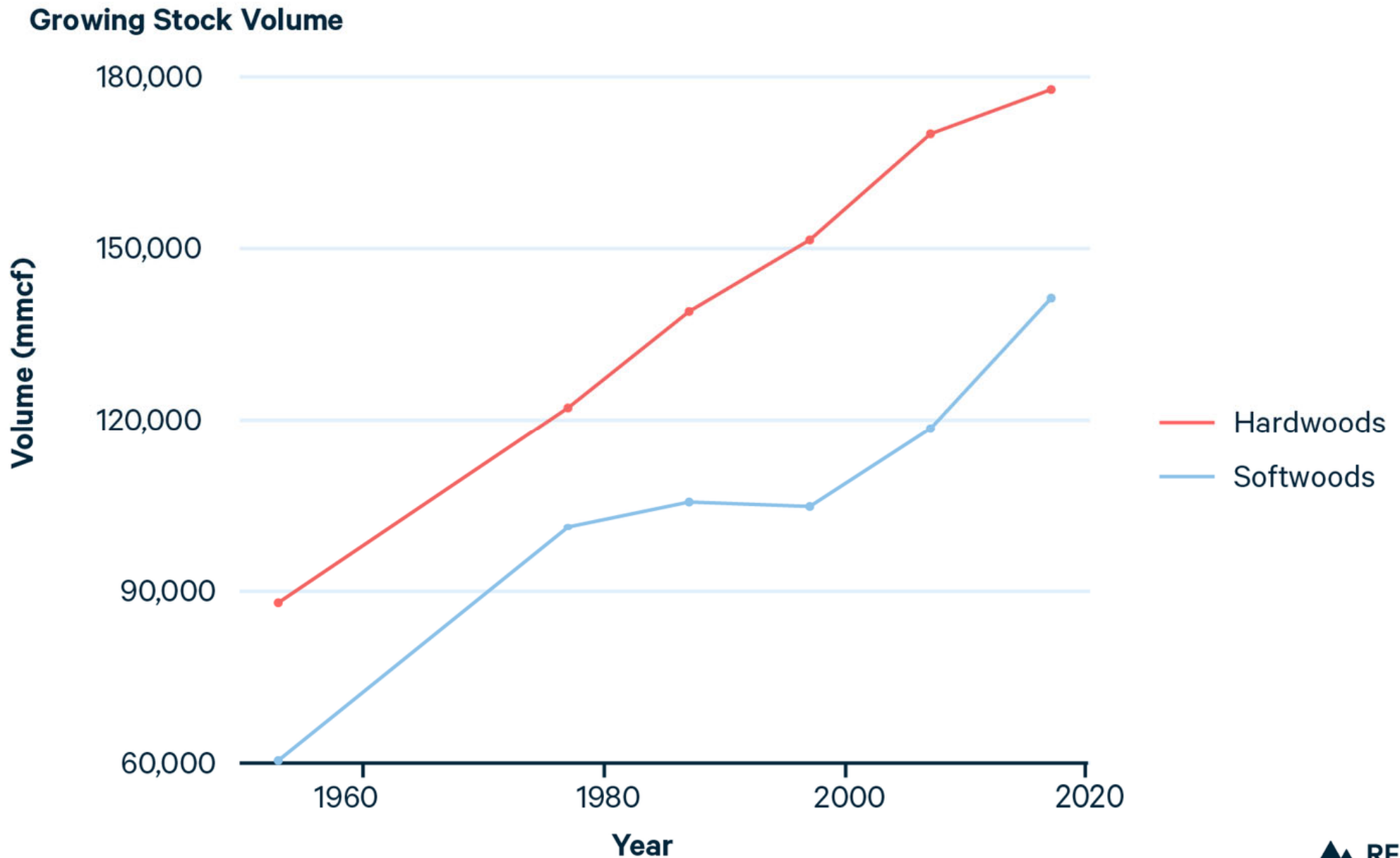


Sustainable Forestry

- For bottom-line **sustainability**, we will need to grow a lot of what we use, and recycle and reuse to avoid waste over product lifecycles.
- For **resilience** with more local supply chains and biodiversity, we need to be able to use what grows here, native forests.
- Climate-centric solutions should invest in the options that help care for the land and the people
 - **Wood energy** with new technology delivers locally grown clean energy on demand, complementing other renewables.
 - **Diverse forest products** build the renewable-resource-based economy that can maintain rural land functions, create diverse mosaics of habitats, and provide equitable access to land ownership



Figure 10. Forest biomass measured as growing stock, measured in millions of cubic feet (mmcf), on timberland in the southeastern United States, 1952–2017 by hardwoods and softwoods

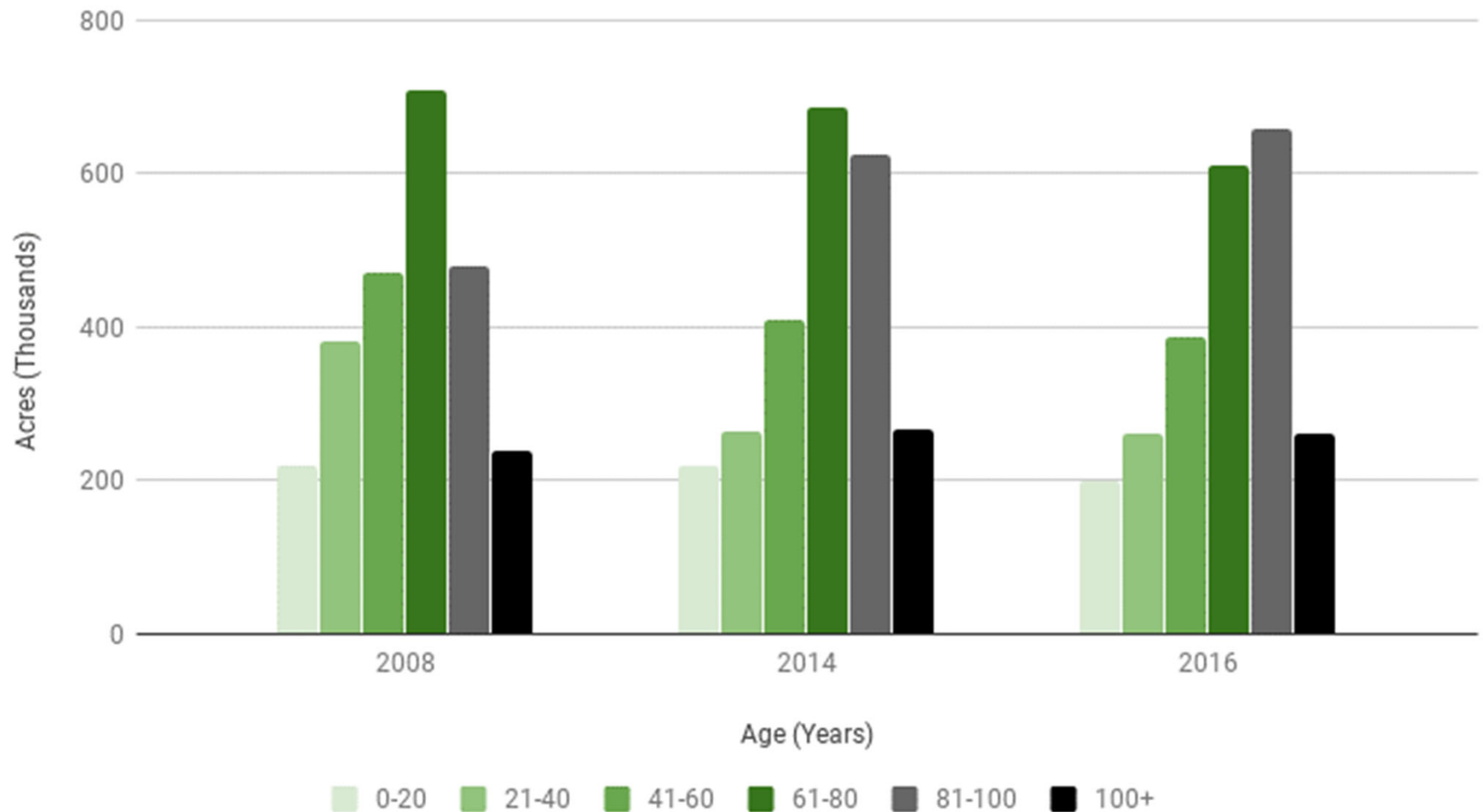




Maryland Forest Action Plan DRAFT

Trends show aging forests, with 80-100 years old the largest category

FIGURE 3: FOREST AGE CLASSES BY SURVEY PERIOD



Climate-Smart Forestry Practices



- *Forest Buffers*
 - Carbon seq., shade for streams
- *Other Tree Planting/Agroforestry*
 - Carbon, wildlife, heat island moderation
- *Invasive Species Control*
 - More tree growth and reproduction
- *Thinning/Timber Stand Improvement*
 - Net growth, choose preferred species, plan for durable wood products
- *Assisted Migration/Transitioning*
 - Potential for planting southern species or short-rotation energy crops (too salty or wet to crop normally)
- *Land Conservation*
 - more likely to expand forest canopy

Agroforestry



- *Options tailored to operation*
 - *Alley Crop*
 - *Silvopasture*
 - *Food Forests*
 - *Riparian Forest Buffers*
 - *Critical Area Planting*
 - *Wildlife Habitat Plantings*

NRCS Forestry Opportunities



- *PLANT MORE TREES*
 - *CREP, EQIP, RCPP*
- *DO GOOD FOREST MANAGEMENT*
 - *CSP, EQIP, RCPP (thinning, TSI, deer protection)*
- *CONTROL INVASIVE SPECIES*
 - *EQIP*
- *AGROFORESTRY-*
 - *EQIP, CREP, RCPP*
- *CONSERVE LAND*
 - *Ag Conservation Easement Program (ALE, WRE)*
- *EFFICIENT WOOD ENERGY*
 - *Price-stable fuel, energy credits*

