

December 2023 CCIT Blast | Private Forest Lands and Climate Change

Developed by Margalit Shetreat-Klein, Dana Walsh, Anjali Pandey, and Lara Buluç

Of the United States’ 750 million acres of forest, over half (56%) are *privately* owned. Yet these forests provide a vast array of *public* goods and services including wildlife habitat, clean water, timber and other forest products, as well as many recreation opportunities. Like all forests, privately owned forests sequester carbon as they grow, acting as a carbon storage bank and helping to partially offset global fossil fuel emissions.

While private forest lands are critical to mitigating climate change, they also can be more vulnerable to its effects, and can contribute to climate change due to their often smaller and more fragmented nature. Forest fragmentation (the division of contiguous forests into smaller, isolated portions) creates more forest edges, which experience amplified wind turbulence and microclimatic changes. This leads to increased tree mortality, and therefore, increased carbon emissions. Forest management is also less feasible for these smaller parcels of forestland, since it is expensive to move machinery from parcel to parcel, and revenue from timber on these parcels may be small. In contrast, large tracts of intact forest and watersheds can be more effective at sequestering carbon and more resilient to climate change impacts. Therefore, fragmented forestland ownership trends coupled with climate change impacts pose a threat to the health of these private forest lands.

A substantial portion of private forest land is expected to change ownership in the coming decades, potentially leading to further fragmentation and land development. While a forest can recoup carbon that is released due to fire or harvest on a portion of the trees, converting an entire forest would mean permanently releasing carbon back into the atmosphere. Directing conservation incentives to forests with great ecological and social value as well as vulnerability to conversion, fragmentation, and climate change promotes the protection and overall wellbeing of these important resources.

An array of programs helps private forest landowners conserve and enhance healthy, resilient forests and forest resources. One recent example of the use of programs to achieve climate mitigation and adaptation on private forestland was through leveraging the Federal Forest Legacy Program and the California Climate Investments Program. Funding provided by these programs (from the USDA Forest Service and CAL FIRE, respectively) allowed for the State of California, acting by and through the Wildlife Conservation Board on behalf of CAL FIRE, to acquire a 1,163-acre Working Forest Conservation Easement on the Mattole Headwaters Forest in Humboldt County in June 2023. This property was at extremely high risk of being sold in up to 29 pieces and converted. The Working Forest Conservation Easement (which ensures that forests and their public benefits are conserved while allowing the landowner to retain private ownership of the property) prevented fragmentation and development of this land,



Figure 1. View of Mount Shasta from funded Shackelford Forest Legacy Conservation Easement Project area in California, designed to keep this forest landscape intact. Photo by EFM.

ensured the property remains an important working forest in perpetuity, and supported numerous environmental values such as conservation of endangered, climate-vulnerable fish and wildlife species and old-growth redwoods.

Important programs that aid private forest landowners in protecting their land include:

- *Conservation Reserve (FSA)*: Financial incentives to retire marginal cropland and establish grass or tree cover.
- *Forest Legacy (USFS)*: Protects forestlands at risk of conversion through permanent easements and acquisition.
- *Forest Stewardship (USFS)*: Technical and educational assistance for sustainable forest stewardship.
- *Inflation Reduction Act Forest Landowner Support (USFS)*: Financial assistance for underserved and small forest landowner participation in emerging private markets for climate mitigation and forest resilience.
- *Farm and Ranch Lands Protection (NRCS)*: Up to 50% of market value compensation for permanent easement to preserve agricultural use of farms/ranches.
- *Healthy Forest Reserve (NRCS)*: Cost-share for restoration plus compensation for up to 100% of development rights for permanent easements.
- *Wildlife Habitat Incentives (NRCS)*: Financial incentives to restore habitat for wildlife benefits.
- *Environmental Quality Incentives Program (NRCS)*: Technical and financial assistance for implementing practices that alleviate conservation problems.

From technical services to permanent easements and direct financial incentives, a forest landowner may craft a custom arrangement for their location and needs that supports continued or enhanced forest stewardship. Ultimately, by aiding private forest landowners and incentivizing them to keep their forests as forests and manage them well, private landowner assistance programs allow for the sustained health, diversity, and productivity of our nation's forests to meet the needs of present and future generations, increasing the forests' resilience towards climate change and the climate change mitigation impacts the forests provide.