

↓ ↑ Avoid forest loss

- Forest conversion is biggest lost of forest carbon benefit
- Results in substantial emissions and lose potential future sequestration (*foregone sequestration*) plus loss of other forest services

Benefits

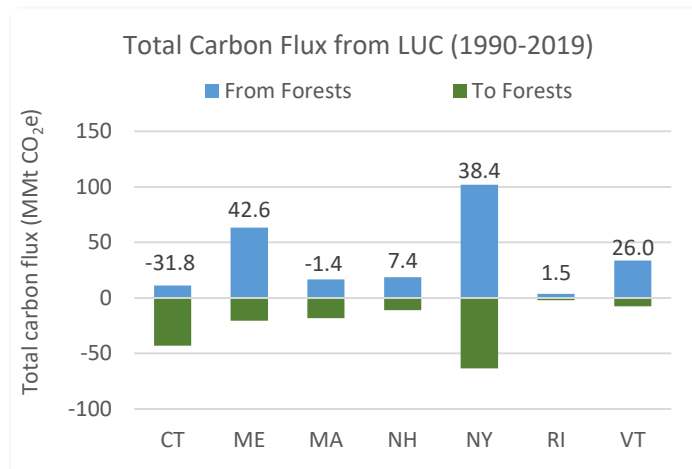
- Keeps carbon in the forest (avoid emissions)
- Maintains future sequestration
- Many other benefits of keeping forests as forests

Considerations

- Costs
- Land use trade-offs
- Permanence of protection



Source: Google Maps (2021)



Data source: Domke et al. (2021)

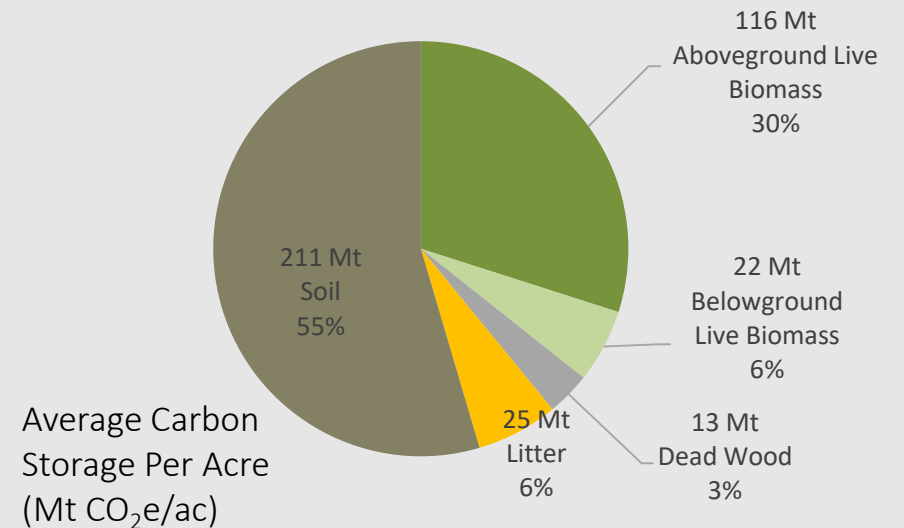
Example of carbon losses from LUC

Forest conversion could remove >50% of the total carbon stock (>200 Mt CO₂e per acre)

Assume 35-45% of the live tree pool to long term storage

And each year that land is unforested, the sequestration potential of the land is lost (1-3 Mt CO₂e/ac/yr)

Conservatively: emissions of >120 Mt CO₂e/acre from land clearing and lost sequestration of 10-30 Mt CO₂e/ac over a decade



Date source: Domke et al. (2020), data for Vermont