Restored Hakalau Montane Forests high density Acacia koa \longrightarrow \bigwedge N₂-fixation \bigvee foliar $\delta^{15}N$ → AC₄-grasses A soil δ¹³C Aboveground Acacia koa fixed-N low C:N to leaf leaf litter biomass C₄ grasses Soil C₄-carbon nodule N₂-fixation