

## Supplementary Information

### Carbon

Biophysical input values are provided in Table S 1. Average aboveground biomass estimate for secondary natural forest was obtained from Uryu, et al. [1]. Aboveground biomass for *Pinus merkusii* monoculture was calculated as an average from values provided in Miyakuni, et al. [2], Hairiah, et al. [3] and Yulistyarini and Sofiah [4]. Aboveground carbon value for full sun coffee was obtained from van Noordwijk, et al. [5] and for annual crop (taro) from Hairiah, et al. [3].

**Table S1.** Table of mean carbon stocks for production forest band per scenario of InVEST carbon model.

Scenario	Aboveground Carbon (C/Mg/ha)	Belowground Carbon (C/Mg/ha)	Dead Carbon (C/Mg/ha)	Soil carbon reduction factor
Natural forest	124	29.8	2.1	0
Pine monoculture	75.8	15.2	1.28	0.069
Pine-coffee Agroforestry	78	17.6	1.32	0.047
Full sun coffee	7	1.8	0.12	0.101
Annual crop (taro)	1.8	0.9	0.03	0.242

### Nitrogen

**Table S2.** Table of biophysical input values for production forest band per scenario for InVEST nutrient retention model.

Scenario	Nitrogen load (Kg/N/ha/year)	Retention coefficient (unitless)	Retention length (meters)
Natural forest	23.45	0.80	300
Pine monoculture	23.45	0.60	300
Pine-coffee Agroforestry	209.15	0.70	300
Full sun coffee	185.7	0.40	25
Annual crop	180.7	0.40	25

### Sediment

**Table S3.** Table of biophysical input values for production forest band per scenario for InVEST sediment retention model

Scenario	Cover management factor (unitless)	Support practice factor (unitless)
Natural forest	0.0001	0.05
Pine monoculture	0.1	0.75
Pine-coffee Agroforestry	0.07	0.75
Full sun coffee	0.2	0.75
Annual crop (taro)	0.34	0.75

## Water yield

Crop evapotranspiration coefficients (Kc) were obtained from Allen, et al. [6]. Rooting depths of deciduous and evergreen forests used in InVEST were obtained from [7] and applied to all ‘forest’ land cover types. Depth at which 95% of root biomass occurs was obtained for coffee from Defrenet, et al. [8] and for annual crop from Tumuhimbise [9].

**Table S4.** Table of biophysical input values for production forest band per scenario for InVEST water yield model.

Scheme 3000.	Root depth (mm)	Kc (unitless)
Natural forest	3000	1
Pine monoculture	3000	1
Pine-coffee Agroforestry	3000	1.09
Full sun coffee	1500	0.95
Annual crop (taro)	300	0.67

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