

Parameter values used for LANDIS-II simulations at Camp Navajo, Arizona and a list of references used to determine parameter values.

Table S1: Species-specific parameter values used for the species file.

Species	Longevity (years)	Sexual Maturity (years)	Shade Tolerance (1-5)	Fire Tolerance (1-5)	Effective Seed Dispersal Distance (m)	Maximum Seed Dispersal Distance (m)
<i>Pinus ponderosa</i>	400	7	2	4	35	120
<i>Quercus gambelii</i>	90	3	3	3	30	1000

Species	Vegetative reproduction probability (0-1)	Minimum age of sprouting	Maximum age of sprouting	Post-fire Regeneration
<i>Pinus ponderosa</i>	0	0	3	None
<i>Quercus gambelii</i>	0.75	1	80	resprout

Table S2: Species-specific parameter values for the Century Succession extension of LANDIS-II.

Species	Functional Type	N Fixation	Growing Degree Days Min	Growing Degree Days Max	Minimum Jan Temp	Max Drought	Leaf Longevity	Epicormic Sprouting
<i>Pinus ponderosa</i>	1	N	155	4000	-5	0.92	4.5	N
<i>Quercus gambelii</i>	2	N	800	4000	-5	0.90	1.0	Y

Species	Leaf Lignin	Fine Root Lignin	Wood Lignin	Coarse Root Lignin	Leaf C:N	Fine Root C:N	Wood C:N	Coarse Root C:N	Litter C:N
<i>Pinus ponderosa</i>	0.28	0.2	0.25	0.25	48	48	250	170	100
<i>Quercus gambelii</i>	0.175	0.23	0.23	0.23	30	48	500	333	46

Table S3: Functional group parameters for the Century Succession extension of LANDIS-II.

Functional Group Name	Index	PPDF1 T-Mean	PPDF2 T-Max	PPDF3 T-Shape	PPDF4 T-Shape	FCFRA C Leaf	BTOLA I	KLAI	MAXLA I
Pine	1	23.0	38.0	0.05	6.0	0.2	0.004	5000.	10.0
								0	
Hardwood	2	23.0	35.0	0.05	7.0	0.3	0.004	5000.	20.0
								0	

Functional Group Name	Index	PPRPTS2	PPRPTS3	Wood Decay Rate	Monthly Wood Mortality	Mortality Age Shape	Leaf Drop Month
Pine	1	1.0	0.5	0.4	0.002	10	10
Hardwood	2	1.0	0.5	0.4	0.002	10	10

Table S4: Ecoregion parameters for the Century Succession extension of LANDIS-II.

Ecoregion	SOM1 Surf		SOM1 Soil		SOM2		SOM3		Mineral
	C	N	C	N	C	N	C	N	N
Eco1	412	4.5	90	7.5	2100	42	810	20	2.4
Eco2	412	4.5	90	7.5	2100	42	810	20	2.4
Eco3	412	4.5	90	7.5	2100	42	810	20	2.4
Eco4	412	4.5	90	7.5	2100	42	810	20	2.4
Eco5	412	4.5	90	7.5	2100	42	810	20	2.4
Eco6	412	4.5	90	7.5	2100	42	810	20	2.4

	Soil	%	%	Fiel	Wilt	Storm	Base	Drai	Atm	Atm N	Latitu
	Dept	Clay	Sand	d	Poin	F	F	n	N	interce	de
	h	y	d	Cap	t	Frac	Frac		dep	pt	
Eco1	100	0.1	0.55	0.24	0.09	0.3	0.6	0.7	0.03	0.004	35.2
		3							5		
Eco2	100	0.3	0.34	0.33	0.14	0.3	0.6	0.7	0.03	0.004	35.2
		0							5		
Eco3	100	0.3	0.34	0.33	0.14	0.3	0.6	0.7	0.03	0.004	35.2
		0							5		
Eco4	100	0.1	0.55	0.24	0.09	0.3	0.6	0.7	0.03	0.004	35.2
		3							5		
Eco5	100	0.3	0.34	0.33	0.14	0.3	0.6	0.7	0.03	0.004	35.2
		0							5		
Eco6	100	0.3	0.34	0.33	0.14	0.3	0.6	0.7	0.03	0.004	35.2
		0							5		

Ecoregion	Decay Surf	Decay	Decay SOM2	Decay SOM3	Denitrifi
Parameters		SOM1			
Eco1	0.15	1.0	0.018	0.00035	0.1
Eco2	0.15	1.0	0.018	0.00035	0.1
Eco3	0.15	1.0	0.018	0.00035	0.1
Eco4	0.15	1.0	0.018	0.00035	0.1
Eco5	0.15	1.0	0.018	0.00035	0.1
Eco6	0.15	1.0	0.018	0.00035	0.1

Table S5: Species productivity parameters for the Century Succession extension of LANDIS-II.
 MonthlyMaxNPP ($\text{g m}^{-2} \text{ month}^{-1}$)

	Eco1	Eco2	Eco3	Eco4	Eco5	Eco6
PIPO	150	150	150	150	150	150
QUGA	75	75	75	75	75	75

Maximum Biomass (g m^{-2})

	Eco1	Eco2	Eco3	Eco4	Eco5	Eco6
PIPO	16000	16000	16000	16000	16000	16000
QUGA	10000	10000	10000	10000	10000	10000

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