

Supporting Information

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Supporting Information I

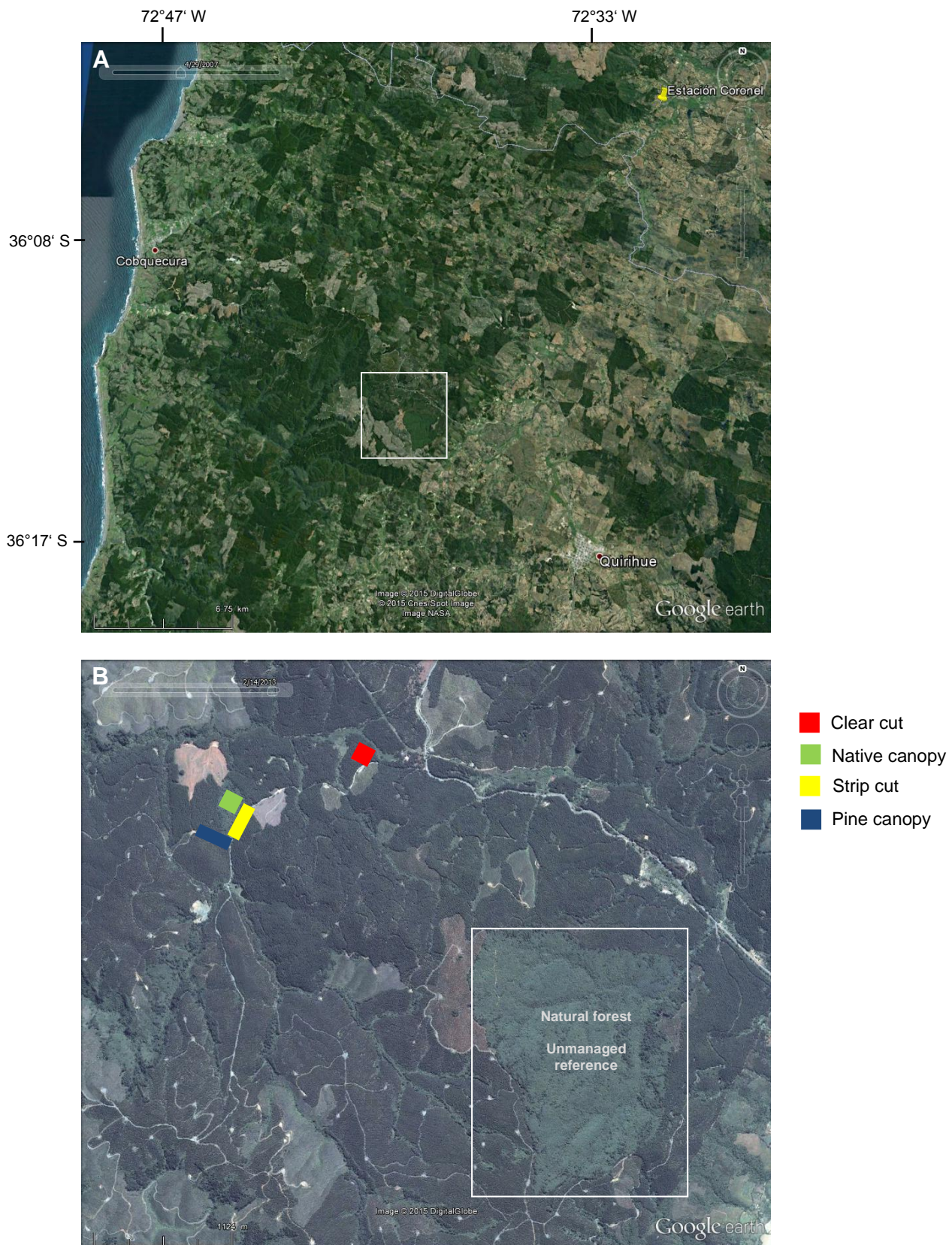


Fig. S1. A) Location of the study area between the localities Quirihue and Cobquecura and of the weather station Coronel del Maule north of the study area; B) Detail of the study area with the four investigated management options and the unmanaged natural forest as reference stand.

Supporting Information II

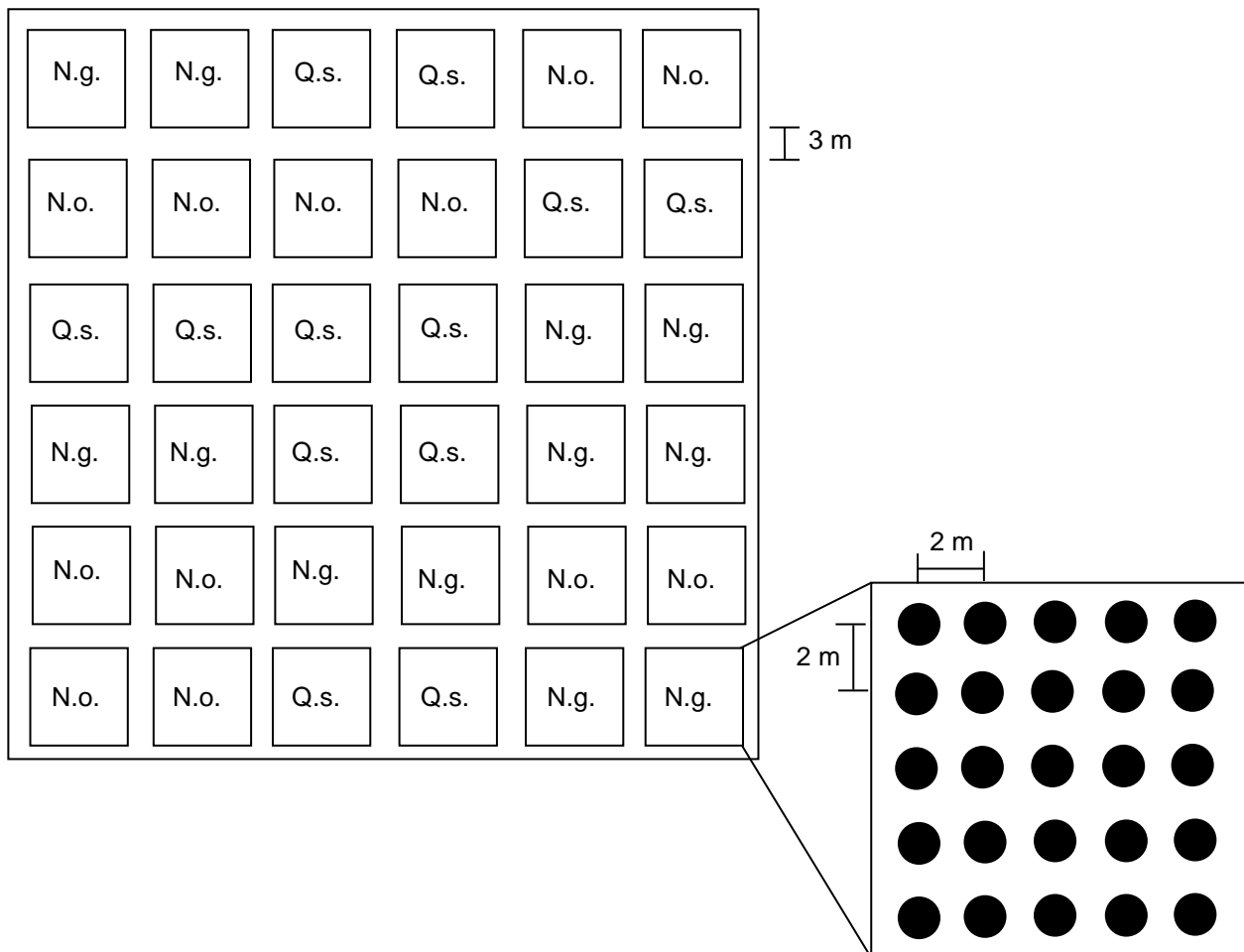


Fig. S2. Schematic diagram of the tree planting experiment on each management option with 12 subplots per species containing 25 seedlings each: N.g. = *Nothofagus glauca*; N.o. = *Nothofagus obliqua*, Q.s. = *Quillaja saponaria*. The arrangement of 6 by 6 subplots accounts for the management options “Clear cut” and “Native canopy”. For the “Pine canopy” option the arrangement was 3 by 12 subplots and for the “Strip cut” option 2 by 18 subplots.

Supporting Information III

Table S1

Mean cover values (%; + = < 0.05 %) of all species sampled on the four management options (n = 5 transects), in the whole managed forest site (n = 4 management options) and in the unmanaged reference forest (n = 8 transects). Given are the species origin (O: N = Native, A = Alien, E = Endemic) and their status as typical forest species (T: X = typical forest species). Typical forest species represent species typical for natural forest communities based on literature records. These communities include the Mediterranean coastal sclerophyllous forest of *Lithrea caustica* and *Azara integrifolia*, the Mediterranean coastal deciduous forest of *Nothofagus glauca* and *Azara petiolaris*, the Mediterranean coastal deciduous forest of *Nothofagus glauca* and *Persea lingue* (all according to Luebert and Pliscoff 2006), the Bomareo salsillae-Nothofagetum glaucae (Amigo et al. 2000), the coastal sclerophyllous forest, the sclerophyllous Maulino Forest and the deciduous Maulino Forest (all according to Gajardo 1994). Species are assigned to different growth groups. The species within each growth group are ordered based on their abundance in the unmanaged reference and according to their origin. Alien species are framed.

	Management options				Managed 4	Unmanaged 8	O	T
	Clear cut n 5	Strip cut 5	Native canopy 5	Pine canopy 5				
Trees								
<i>Cryptocarya alba</i>			1.2		0.3	5.1	E	X
<i>Lithraea caustica</i>		0.8	2.3	1.7	1.2	4.7	E	X
<i>Gevuina avellana</i>	+	+	0.8	+	0.2	4.5	N	X
<i>Peumus boldus</i>	0.2	0.4	1.1	0.5	0.5	2.4	E	X
<i>Azara integrifolia</i>		0.4	1.3	+	0.4	2.1	E	X
<i>Aextoxicon punctatum</i>						1.6	N	X
<i>Nothofagus glauca</i>		0.2	4.0		1.1	1.3	E	X
<i>Lomatia hirsuta</i>		0.1	6.5		1.7	1.0	N	X
<i>Laurelia sempervirens</i>						0.5	E	
<i>Aristotelia chilensis</i>	+	6.4	0.4	5.2	3.0	0.5	N	X
<i>Quillaja saponaria</i>	+	0.7	0.2	0.7	0.4	0.4	E	X
<i>Persea lingue</i>						0.4	N	X
<i>Lomatia dentata</i>			0.9		0.2	0.4	N	X
<i>Citronella mucronata</i>						0.3	E	X
<i>Escallonia pulverulenta</i>		+	0.4	11.1	2.9	0.2	E	X
<i>Luma apiculata</i>		0.2	0.4	+	0.2	0.2	N	X
<i>Podocarpus saligna</i>						0.1	E	
<i>Maytenus boaria</i>		0.6	2.8		0.9		N	X
<i>Embothrium coccineum</i>		+	+		+		N	
<i>Nothofagus obliqua</i>	+		+		+		N	X
<i>Pinus pinaster</i>						0.1	A	
<i>Pinus radiata</i>	1.0	0.2	0.4	0.2	0.4	+	A	
<i>Eucalyptus spec.</i>		1.0			0.2		A	
<i>Acacia dealbata</i>		+			+		A	
Shrubs								
<i>Gaultheria insana</i>	+		11.3		2.8	26.7	N	
<i>Ugni molinae</i>	0.2	0.6	9.9	+	2.7	21.7	N	X
<i>Podanthus ovatifolius</i>						2.4	E	
<i>Ribes punctatum</i>	0.1	0.3	8.5	0.1	2.3	0.5	N	X
<i>Senna stipulacea</i>						0.4	E	
<i>Sophora macrocarpa</i>						0.4	E	X
<i>Colletia hystrix</i>		+	0.1		+	0.2	N	X
<i>Viola portalesia</i>			0.7	+	0.2	0.1	E	X
<i>Gochnatia foliolosa</i>						0.1	E	X
<i>Senecio cymosus</i>						0.1	E	X
<i>Agrythamnia tricuspida</i>						0.1	N	
<i>Tristerix corymbosum</i>						0.1	N	
<i>Proustia pyrifolia</i>						0.1	E	X
<i>Teucrium bicolor</i>		0.9	0.6	1.7	0.8	+	E	X
<i>Baccharis racemosa</i>		+	0.8		0.2	+	N	
<i>Baccharis rhomboidales</i>	0.1	+	1.0		0.3	+	N	X
<i>Margyrcarpus pinnatus</i>			+	+	+	+	N	
<i>Acaena argentea</i>	0.1	6.2	0.1	0.4	1.7		N	
<i>Muehlenbeckia hastulata</i>	0.1	0.2	+	0.3	0.2		N	
<i>Mutisia spinosa</i>		0.3	0.2		0.1		N	
<i>Baccharis sagittalis</i>		+			+		N	
<i>Calceolaria dentata</i>				+	+		N	
<i>Solanum crispum</i>				+	+		N	
<i>Genista monspessulana</i>	6.4	8.2	0.1	0.2	3.7		A	
<i>Rubus ulmifolius</i>	0.1	1.7	+	0.6	0.6		A	
<i>Rosa rubiginosa</i>	+	0.1			+		A	

Table S1: continued

	Management options				Managed	Unmanaged	O	T
	Clear cut	Strip cut	Native canopy	Pine canopy				
n	5	5	5	5	4	8		
Herbs & Ferns (F)								
<i>Bomareaa salsilla</i>							1.5	E X
<i>Galium cotinoides</i>		+		+	+		0.3	E
<i>Blechnum hastatum</i> (F)			+		+		0.3	N X
<i>Gilliesia montana</i>							0.2	E
<i>Solenomelus pedunculatus</i>		0.1		0.2	+	0.1	0.1	E
<i>Olsynium scirpoideum</i>				0.1		+	0.1	E
<i>Cynanchum pachyphyllum</i>				0.1	+	+	0.1	N
<i>Gavilea venosa</i>							+	E
<i>Alstroemeria ligtu</i>	+				+	+	+	E
<i>Oxalis arenaria</i>		0.5		1.0		0.4	+	E
<i>Libertia sessiliflora</i>							+	E
<i>Greigia sphacelata</i>							+	E
<i>Galium hypocarpium</i>	0.3	2.4		4.8	0.2	2.0	+	N X
<i>Adiantum chilense</i> (F)				+		+	+	N X
<i>Cardamine vulgaris</i>							+	N
<i>Polypodium feuillei</i> (F)							+	N
<i>Brodiaea porrifolia</i>		0.1		0.1	0.1	0.1	+	N
<i>Oxalis perdicaria</i>							+	N
<i>Sanicula crassicaulis</i>							+	N
<i>Pasithea coerulea</i>	2.1	0.3		0.4	+	0.7		N
<i>Stachys ochroleuca</i>	1.3					0.3		E
<i>Conanthera bifolia</i>	0.5	+		0.1	0.1	0.2		E
<i>Trifolium polymorphum</i>				0.6		0.2		N
<i>Gamochaeta coarctata</i>	0.2	0.2		0.1	0.2	0.2		N
<i>Stachys gilliesii</i>	+	0.1		0.1	0.1	0.1		E
<i>Chlorea lamellata</i>	0.1			+	0.1	0.1		E
<i>Alstroemeria revoluta</i>	0.6					0.1		E X
<i>Gnaphalium cheiranthifolium</i>		0.1		0.1	+	0.1		N
<i>Geranium core-core</i>		0.4		+		0.1		N
<i>Oxalis micrantha</i>		0.3			0.1	0.1		N
<i>Calandrinia compressa</i>		+		+		+		E
<i>Hypericum caespitosum</i>	+	+			+	+		E
<i>Sisyrinchium chilense</i>		+		+		+		N
<i>Calandrinia arenaria</i>				+		+		N
<i>Calceolaria corymbosa</i>				+		+		N
<i>Cicendia quadrangularis</i>					+	+		N
<i>Collomia biflora</i>		0.1				+		N
<i>Coryza floribunda</i>	0.1	+				+		N
<i>Glandularia laciniata</i>	+				+	+		N
<i>Sisyrinchium graminifolium</i>	+					+		N
<i>Solvia pterosperma</i>					+	+		N
<i>Rumex acetosella</i>	5.5	9.0		+	0.8	3.8		A
<i>Lactuca serriola</i>	0.2	3.8		0.6	0.4	1.2		A
<i>Hypericum perforatum</i>	1.5	0.9		0.7	0.5	0.9		A
<i>Hypochaeris radicata</i>	1.1	0.4		0.4	0.1	0.5		A
<i>Crepis capillaris</i>		1.4				0.4		A
<i>Cirsium vulgare</i>	0.1	0.4		0.1	+	0.2		A
<i>Sonchus oleraceus</i>		0.1		0.2	+	0.1		A
<i>Taraxacum officinale</i>		0.5		0.1		0.1		A
<i>Plantago lanceolata</i>	0.2	0.2		+	+	0.1		A
<i>Senecio sylvaticus</i>		0.2		+	0.1	0.1		A
<i>Sanguisorba minor</i>	0.2	0.1			0.2	0.1		A
<i>Geranium robertianum</i>		+		+	0.1	+		A
<i>Leontodon saxatilis</i>				+		+		A
<i>Verbascum virgatum</i>	0.1	+		+	+	+		A
<i>Cirsium arvense</i>				+		+		A
<i>Sonchus asper</i>				+		+		A
<i>Anagallis arvensis</i>		+			0.1	+		A
<i>Erodium cicutarium</i>					+	+		A
<i>Euphorbia peplus</i>		0.1			+	+		A
<i>Lofgia gallica</i>	+					+		A
<i>Lotus pedunculatus</i>	+					+		A
<i>Mentha pulegium</i>	+	0.1				+		A
<i>Silybum marianum</i>		0.1				+		A
<i>Galium aparine</i>		+				+		A
Graminoids								
<i>Relchela panicoides</i>		0.3		1.2	0.6	0.5	2.0	N
<i>Uncinia phleoides</i>		+			+	+	1.6	N X
<i>Nassella laevissima</i>	7.9	3.1		5.2	23.6	9.9	0.7	N

Table S1: continued

	Management options				Managed 4	Unmanaged 8	O	T
	Clear cut 5	Strip cut 5	Native canopy 5	Pine canopy 5				
<i>Carex setifolia</i>			0.3		0.1		+	N
<i>Unicinia ericacaea</i>							+	E
<i>Danthonia aureofulva</i>	1.1	0.2	0.3	0.3	0.5			E
<i>Piptochaetium panicoides</i>	1.7			+	0.4			N
<i>Chascolytrum subaristatum</i>	0.5	+	0.1	0.1	0.2			N
<i>Elymus angulatus</i>		0.7			0.2			N
<i>Nassella tenuissima</i>		0.2	0.1	+	0.1			N
<i>Carex phalaroides</i>	+	+	0.1	0.1	0.1			N
<i>Nassella chilensis</i>			+	0.4	0.1			N X
<i>Bromus lithobius</i>		0.2			+			N
<i>Agrostis capillaris</i>	62.3	7.5		1.9	17.9			A
<i>Holcus lanatus</i>	0.7	2.1	+	+	0.7			A
<i>Aira caryophyllea</i>		0.1		0.6	0.2			A
<i>Briza minor</i>	+	0.3		0.5	0.2			A
<i>Anthoxanthum odoratum</i>	0.2				0.1			A
<i>Bromus cf. rigidus</i>			0.1		+			A
<i>Avena fatua</i>	+				+			A
<i>Bromus hordeaceus</i>				0.1	+			A
<i>Cynosorus echinatus</i>				+	+			A
<i>Gastridium phleoides</i>	+			+	+			A
<i>Juncus effusus</i>	+	+			+			A
<i>Poa pratensis</i>				0.2	+			A
<i>Vulpia bromoides</i>	+			+	+			A
Vines (V) & Lianas (L)								
<i>Lapageria rosea</i> (V)							5.0	E X
<i>Vicia nana</i> (V)			+		+		0.4	N
<i>Elytropus chilensis</i> (V)							0.3	N
<i>Boquillia trifoliata</i> (L)							0.2	N X
<i>Dioscorea bridgesii</i> (V)	0.1	0.2	0.2	0.3	0.2		0.1	E
<i>Lardizabala biternata</i> (L)		+	0.6	0.1	0.2		+	E X
<i>Dioscorea humifusa</i> (V)		0.1	0.1		+		+	E
<i>Dioscorea auriculata</i> (V)							+	E
<i>Lathyrus magellanica</i> (V)		0.3	0.6		0.2			N
<i>Cissus striata</i> (L)		+		0.1	+			N X

References

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Supporting Information IV

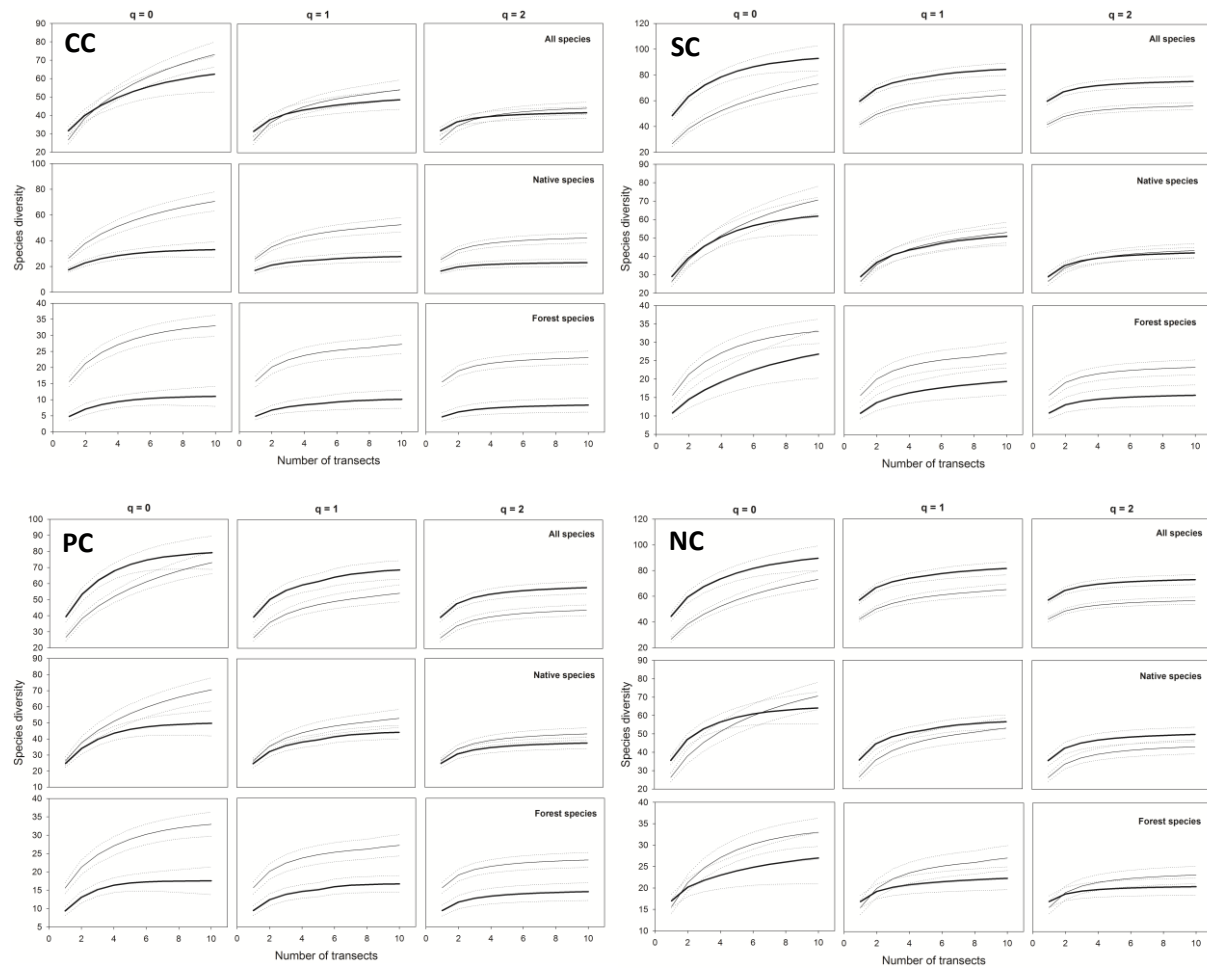


Fig. S3. Sample-size based rarefaction and extrapolation curves of plant species diversity (distinguishing between all species, native species, forest species) for Hill numbers $q = 0, 1, 2$ for the Clear cut (CC), the Strip cut (SC), the Pine canopy (PC) and the Native canopy option (NC) each compared to the unmanaged reference. The bold line represents the management option, the thin line the unmanaged reference. The upper and lower 95 %-confidence intervals (dotted lines) were obtained by a bootstrap method based on 50 replications. The base sample size was 10, curves beyond n (number of transects) = 5 for the management options and $n = 8$ for the unmanaged stand are extrapolated.