Appendix A. Field and GIS data *per* sampling unit.

Table A.1. Attributes of the woody vegetation and landscape metrics that characterize the 16 sampling units (3.1 ha circular plots centered on an isolated fig tree; IT01 – IT16) in active pastures, Jamapa, Mexico.

Attribute / Metric	**IT01**	**IT02**	**IT03**	**IT04**	**IT05**	**IT06**	**IT07**	**IT08**	**IT09**	**IT10**	**IT11**	**IT12**	**IT13**	**IT14**	**IT15**	**IT16**
Richness (# spp.)	6	11	12	14	10	15	14	16	25	25	18	21	23	21	31	36
Abundance (# ind.)	9	15	32	32	47	51	55	110	100	117	124	149	163	193	222	358
Basal area (m^2)	0.3	5.4	2.1	3.8	2.7	3.4	3.6	13.5	33.5	11.4	14.6	8.1	14.4	20.0	31.1	20.3
Isolation variables (landscape-level)																
D_remn (m)	2234	455	686	2353	2801	1500	2682	296	986	429	2899	3308	30	143	44	77
D_rip (m)	484	728	566	1138	541	1250	544	102	424	1048	1022	584	958	1143	424	1104
D_fragment (m)	306	269	566	216	301	1030	544	102	413	83	297	34	30	143	44	77
Structural variables (plot-level)																
FORCOV (% plot)	2.5	3.0	5.8	6.6	6.1	7.5	10.9	16.1	19.0	17.9	16.4	37.4	31.9	30.8	32.6	43.8
AREA_AM (m^2/ha)	0.03	0.02	0.11	0.06	0.02	0.03	0.11	0.29	0.18	0.19	0.25	0.71	0.33	0.34	0.29	0.57
ED (m/ha)	65.3	110.6	135.4	168.3	247.0	309.4	243.5	321.9	382.7	278.2	206.2	297.3	333.3	439.8	312.6	440.7
NP/ha (m/ha)	1.3	2.6	2.6	2.6	4.8	6.4	3.5	8.0	4.8	2.2	4.5	3.2	4.1	5.4	2.9	3.5
SHDI	0.68	0	0	0	0.60	0	0.73	0.69	0.62	0.99	0.63	0.69	1.13	0.68	0.74	1.13
Forest cover types (%)																
TFC *[RF]*	0	0	0	0	0	0	0	0	0	2.8	0	0	13.7 *[13.7]*	17.6	23.9 *[23.9]*	30.8 *[3.4]*
SFC	0	0	0	0	0	0	0	7.2	0	9.4	11.1	28.8	11.5	0	0	0
IT+SWP	2.5	3.0	5.8	6.6	6.1	7.5	10.9	8.9	19.0	5.7	5.3	8.5	6.7	13.21	8.7	13.0

Isolation variables: distance to nearest old-growth forest remnant (D_remn); distance to nearest forested riparian belt (D_rip); and distance to nearest forest or arboreal fragment >1 ha (D_fragment).

Structural variables within each plot: percent forest cover within the plot (FORCOV); mean area of forested patches weighted by area (AREA_AM); landscape heterogeneity index (SHDI); patch density standardized by forest cover area (NP/ha); and forest-pasture edge density (ED). See McGarigal (2012) for more details on each metric.

Forest cover types (i.e., classes) in percentage of plot area: tall canopy forest (TFC), including old-growth remnant forest (*[RF]*) if present (i.e. only in IT13, IT15 and IT16); short canopy forest (SFC) pooled with urban orchards; and isolated trees pooled with small (≤1ha) wooded patches (IT+SWP), including linear clusters of planted trees in living fences.

Appendix B. Ordination correlations between sample scores along CCA axes and landscape metrics.

Table B.1. Intra-set correlations between sampling unit scores along axes CCA1 and CCA2 with landscape metrics. Significant p-values are shown; $p<0.05$(*); $p<0.01$(**). Only metrics with $r^2 \geq 0.3$ are shown in the graph of Fig. 5.

Vectors	**CCA1**	**CCA2**	**r^2**	**Pr(>r)**
FORCOV	0.22	0.98	0.7	0.004**
SHDI	-0.24	0.97	0.6	0.017*
NP/ha	-0.01	-1	0.4	0.115
D_remn	-0.54	-0.84	0.2	0.281
D_rip	-0.92	0.39	0.6	0.005**
D_fragment	-0.24	-0.97	0.3	0.237

Appendix C. Accuracy assessment of the classification process based on vegetation height (derived from DEM data) and high resolution ortho-photos (see Methods) for the land-cover map of our study area (Fig. 1). Data of 669 verification points were arranged in a confusion matrix, with land-cover classes distinguished in our classification shown as columns and those observed on the ground shown as rows. Land-cover classes correspond to those shown in Table 1 (except the “water” class).

The Mexican institute of geography (INEGI) used LIDAR data (resolution: 211 pulses per ha) to produce by interpolation digital elevation models DEM (including the digital terrain models –DTM– and the digital surface models –DSM) with a resolution of 5×5 m per pixel that are available free for all public from their official webpage (http://www.beta.inegi.org.mx/temas/mapas/relieve/continental/). We used the geo-referenced and ortho-corrected DTM and DSM products of INEGI to estimate maximum vegetation height (i.e., DSM-DTM) with a 5x5 m pixel resolution in our study area (Fig. 1). Then, by over imposing the raster map of estimated vegetation height on high resolution (1 m/pixel) images (aerial orthophotographs) of our study site, we were able to corroborate that our criteria of vegetation height $\geq$ 2.5 m clearly differentiated patches of arboreal vegetation from those areas deprived of woody vegetation (i.e., where the difference between the DSM and the DTM was $<$ 2.5 m).

Table C.1. Confusion matrix of the land-cover classification

Real classes (ground truth)	**Open areas**	**Isolated trees**	**Small wooded patches**	**Tall canopy forest**	**Short canopy forest**	**Forested riparian belts**	**Urban orchards**	**Total _truth**	**U-accuracy**
Open areas	157	0	0	0	0	0	0	*157*	1.00
Isolated trees	0	96	2	0	0	0	0	*98*	0.98
Small wooded patches	2	1	80	3	7	0	0	*93*	0.86
Tall canopy forest	0	0	0	71	11	1	0	*83*	0.86
Short canopy forest	0	0	0	12	125	2	0	*139*	0.90
Forested riparian belts	0	0	0	0	0	59	0	*59*	1.00
Urban orchards	0	0	0	0	0	0	40	*40*	1.00
Total_classified	*159*	*97*	*82*	*86*	*143*	*62*	*40*	***669***	
P-accuracy	0.99	0.99	0.98	0.83	0.87	0.95	1.00		

Overall Accuracy = 0.94
Expected Accuracy = 0.17
Kappa index = 0.93
*Kappa index formula after Cohen (1960)

Appendix D. Species list and abundance *per* scenario

Table D.1. Tree species (dbh >5 cm) listed in alphabetical order, with family, dispersal syndrome (D.S.), abundance per land use intensity scenario, total abundance and Importance Value Index (IVI). Dispersal syndromes (D.S.): endo-zoochorous (Z) for fleshy fruit ingested by birds and bats; anemochorous (A) for those dispersed by wind, and other (O) for seeds dispersed by other means (i.e., water, cattle, adhesion, explosion, etc.). Sources: Castillo-Campos and Travieso-Bello (2006); Tropicos.org (2018).

Species **(authority)**	**Family**	**D.S.**	**Sce I**	**Sce II**	**Sce III**	**Sce IV**	**Total abun.**	**IVI (%)**
*Acacia cochliacantha (*Humb. & Bonpl. ex Willd.)	Fabaceae	O	21	4	44	74	143	14.4
Acacia cornigera ((L.) Willd.)	Fabaceae	Z	0	0	7	3	10	1.6
Achatocarpus nigricans (Triana)	Achatocarpaceae	Z	2	3	8	31	44	6.0
Acrocomia aculeata ((Jacq.) Lodd. ex Mart.)	Arecaceae	Z	5	17	13	10	45	8.7
Annona muricata (L.)	Annonaceae	Z	0	0	1	0	1	0.4
Annona purpurea (Moç. & Sessé ex)	Annonaceae	Z	0	1	1	3	5	1.7
Annona reticulata (L.)	Annonaceae	Z	1	2	4	0	7	1.7
Attalea butyracea ((Mutis ex L.f.) Wess.Boer)	Arecaceae	Z	0	0	5	87	92	11.7
Bauhinia divaricata (L.)	Fabaceae	O	0	0	4	0	4	0.6
Brosimum alicastrum (Sw.)	Moraceae	Z	0	0	0	1	1	0.4
Bunchosia sp. (Kunth)	Malpighiaceae	Z	0	0	0	1	1	0.4
Bursera simaruba ((L.) Sarg.)	Burseraceae	Z	2	22	2	3	29	5.4
*Byrson*ima crassifolia ((L.) Kunth)	Malpighiaceae	Z	0	0	2	1	3	1.0
Caesalpinia cacalaco (Humb. & Bonpl.)	Fabaceae	Z	0	0	13	3	16	2.0
Carica papaya (L.)	Caricaceae	Z	0	0	0	1	1	0.4
Casearia aculeata (Jacq.)	Salicaceae	Z	0	0	5	1	6	1.4
Castilla elastica (Cerv.)	Moraceae	Z	0	0	0	1	1	0.4
Casuarina equisetifolia (L.)	Casuarinaceae	A	0	0	0	1	1	0.4
Cecropia obtusifolia (Bertol.)	Urticaceae	Z	0	0	0	10	10	1.0
Cedrela odorata (L.)	Meliaceae	A	4	3	23	28	58	9.8
Ceiba aesculifolia ((Kunth) Britten & Baker f.)	Malvaceae	A	0	1	0	1	2	1.0
Ceiba pentandra ((L.) Gaertn.)	Malvaceae	A	0	0	2	2	4	1.4
Cestrum sp.	Solanaceae	Z	0	0	1	0	1	0.4
Cestrum tomentosum (L. f.)	Solanaceae	Z	2	4	3	48	57	6.4
Cinnamomum verum (J. Presl)	Lauraceae	Z	0	0	1	0	1	0.4
Citharexylum berlandieri (B.L. Rob.)	Verbenaceae	Z	0	4	0	5	9	1.3
Citrus limon ((L.) Osbeck)	Rutaceae	Z	0	0	2	3	5	2.1
Citrus sinensis ((L.) Osbeck)	Rutaceae	Z	0	0	0	1	1	0.4
Coccoloba barbadensis (Jacq.)	Polygonaceae	Z	1	7	2	0	10	2.7
Cochlospermum vitifolium ((Willd.) Spreng.)	Bixaceae	A	0	0	0	3	3	1.0
Cocos nucifera (L.)	Arecaceae	O	0	0	10	0	10	1.4
Cordia alliodora ((Ruiz & Pav.) Oken)	Boraginaceae	A	3	5	6	12	26	4.1
Cordia collococca (L.)	Boraginaceae	Z	0	17	3	13	33	4.6
Cordia dodecandra (Sessé & Moc.)	Boraginaceae	Z	1	0	0	1	2	1.0
Crataeva tapia (L.)	Capparaceae	Z	0	0	1	1	2	0.9
Crescentia alata (Kunth)	Bignoniaceae	Z	1	0	0	0	1	0.4

Curatella americana (L.)	Dilleniaceae	Z	0	0	0	5	5	0.7
Delonix regia ((Bojer ex Hook.) Raf.)	Fabaceae	O	0	0	0	1	1	0.4
Dendropanax arboreus ((L.) Decne. & Planch.)	Araliaceae	Z	2	9	0	5	16	2.6
Diospyros nigra Blanco	Ebenaceae	Z	0	0	0	1	1	0.4
Diphysa americana ((Mill.) M.Sousa)	Fabaceae	A	2	1	11	8	22	5.1
Ehretia tinifolia (L.)	Boraginaceae	Z	4	5	9	15	33	9.1
Enterolobium cyclocarpum ((Jacq.) Griseb.)	Fabaceae	O	2	4	7	1	14	3.1
Ficus aurea (Nutt.)	Moraceae	Z	0	2	3	4	9	4.6
Ficus cotinifolia (Kunth)	Moraceae	Z	1	3	1	2	7	13.2
Ficus crocata ((Miq.) Miq.)	Moraceae	Z	0	0	0	1	1	1.2
Ficus insipida (Willd.)	Moraceae	Z	0	0	6	9	15	13.1
Ficus obtusifolia (Kunth)	Moraceae	Z	0	3	1	1	5	1.6
Genipa americana (L.)	Rubiaceae	Z	0	0	2	0	2	0.5
Gliricidia sepium ((Jacq.) Kunth ex Walp.)	Fabaceae	A	2	25	81	232	340	34.3
Gmelina arborea (Roxb. ex Sm.)	Lamiaceae	Z	1	0	0	3	4	0.9
Guazuma ulmifolia (Lam.)	Malvaceae	Z	13	36	70	91	210	22.9
Haematoxylum campechianum (L.)	Fabaceae	A	4	0	0	1	5	1.0
Inga vera (Willd.)	Fabaceae	Z	0	0	0	2	2	0.6
Ipomoea arborescens ((Humb. & Bonpl. ex Willd.) G. Don)	Convolvulaceae	O	0	0	0	1	1	0.5
Jatropha curcas (L.)	Euphorbiacea	Z/O	0	13	4	6	23	3.7
Leucaena leucocephala ((Lam.) de Wit)	Fabaceae	A	0	0	1	3	4	0.9
Lonchocarpus sp. (Kunth)	Fabaceae	A	0	0	0	7	7	1.3
Maclura tinctoria ((L.) D. Don ex Steud.)	Moraceae	Z	2	4	4	30	40	6.6
Mangifera indica (L.)	Anacardiaceae	Z	0	2	24	21	47	15.4
Muntingia calabura (L.)	Muntingiaceae	Z	1	0	0	0	1	0.5
Parmentiera aculeata ((Kunth) Seem.)	Bignoniaceae	Z	2	4	12	4	22	4.0
Persea americana (Mill.)	Lauraceae	O	0	0	2	0	2	0.5
Piscidia piscipula ((L.) Sarg.)	Fabaceae	A	0	1	1	0	2	1.3
Pisonia aculeata (L.)	Nyctaginaceae	O	2	0	0	6	8	1.2
Pithecellobium dulce ((Roxb.) Benth.)	Fabaceae	Z	0	1	0	0	1	0.5
Pithecellobium sp. (Mart.)	Fabaceae	Z	0	1	2	13	16	2.8
Pleuranthodendron lindenii ((Turcz.) Sleumer)	Salicaceae	Z/O	0	0	0	22	22	1.9
Psidium sartorianum ((O. Berg) Nied.)	Myrtaceae	Z	1	0	0	0	1	0.4
Roystonea dunlapiana (P.H. Allen)	Arecaceae	Z	0	0	1	9	10	1.7
Sabal mexicana (Mart.)	Arecaceae	Z	1	43	14	6	64	10.1
Sapium sp. (Jacq.)	Euphorbiacea	Z	0	0	0	3	*3*	0.5
Serjania racemosa (Scumach.)	Sapindaceae	A	1	0	0	0	1	0.4
Smilax mollis (Humb. & Bonpl. ex Willd.)	Smilacaceae	Z	0	0	0	1	1	0.4
Spondias mombin (L.)	Anacardiaceae	Z	0	0	1	2	3	1.0
Spondias purpurea (L.)	Anacardiaceae	Z	1	0	29	18	48	6.1
Tabebuia rosea ((Bertol.) DC.)	Bignoniaceae	A	3	16	15	25	59	10.2
Tabernaemontana alba (Mill.)	Apocynaceae	Z	0	0	0	6	6	1.1
Tamarindus indica (L.)	Fabaceae	Z	0	0	21	4	25	5.8
Terminalia catappa (L.)	Combretaceae	A	0	0	2	0	2	0.9
Trophis racemosa ((L.) Urb.)	Moraceae	Z	0	0	0	1	1	0.4

Yucca guatemalensis (Baker)	Asparagaceae	O	0	0	2	0	2	1.5
Zanthoxylum riedelianum (Engl.)	Rutaceae	Z	0	0	0	5	5	1.1
Zuelania guidonia ((Sw.) Britton & Millsp.)	Salicaceae	Z	0	0	1	1	2	0.8
Unknown genus [peinecillo]	Fabaceae	_	0	0	0	3	3	0.5
Unknown genus [chilolo]	Fabaceae	_	0	0	0	2	2	0.5
Unknown genus [rompehacha]	Fabaceae	_	0	0	0	5	5	0.7
Unknown Fam. [Chivimello]	?	_	0	0	0	1	1	0.4
			88	**263**	**490**	**936**	**1777**	

Appendix E. Model selection results using an information-theoretical approach and model averaging.

Table E.1. Results of information-theoretic model selection for richness, abundance, and basal area, at the: **a)** landscape level (isolation variables) and **b)** plot level (structural variables); showing candidate models ranked by their Akaike weigths (*wi*). The Akaike information criterion corrected for small sample size (AICc) and over-dispersion (*[Q]AICc*) is also shown, as well as their incremental differences with the most parsimonious model (*Δ[Q]AICc*). The subset of top models whose accumulated confidence surpassed 95% (Σw_i >0.95) are highlighted in gray, while those with *Δ[Q]AICc* <2 are marked with an asterisk (*).

a) Isolation variables (at the landscape level; distances to forested fragments)

No	***Y-variable / candidate model***	***# parameters***	***[Q]AICc***	***Δ[Q]AICc***	***wi***
	Richness (# species)				
1	Y = B0 + B1(D_remn)	2	51.49	0*	0.28
2	Y = B0 + B1(D_fragment)	2	52.18	0.69*	0.20
3	Y = B0 + B1(D_remn) + B2(D_fragment)	3	52.22	0.73*	0.20
4	Y = B0 + B1(D_remn) + B2(D_rip)	3	53.90	2.40	0.08
5	Y = B0 + B1(D_rip) + B2(D_fragment)	3	53.91	2.41	0.08
6	Y = B0	1	54.28	2.78	0.07
7	Y = B0 + B1(D_remn) + B2(D_rip) + B3(D_fragment)	4	54.87	3.38	0.05
8	Y = B0 + B1(D_rip)	2	55.98	4.49	0.03
	Abundance (# individuals)				
1	Y = B0 + B1(D_fragment)	2	24.34	0*	0.41
2	Y = B0 + B1(D_remn) + B2(D_fragment)	3	25.47	1.13*	0.24
3	Y = B0 + B1(D_rip) + B2(D_fragment)	3	25.76	1.41*	0.20
4	Y = B0 + B1(D_remn) + B2(D_rip) + B3(D_fragment)	4	27.78	3.44	0.07
5	Y = B0 + B1(D_remn)	2	28.84	4.49	0.04
6	Y = B0 + B1(D_remn) + B2(D_rip)	3	30.82	6.47	0.02
7	Y = B0	1	32.37	8.03	0.01
8	Y = B0 + B1(D_rip)	2	33.53	9.18	0.00
	Basal area (m^2)				
1	Y = B0 + B1(D_remn)	2	122.06	0*	0.39
2	Y = B0	1	123.69	1.63*	0.17
3	Y = B0 + B1(D_remn) + B2(D_fragment)	3	124.08	2.02	0.14
4	Y = B0 + B1(D_fragment)	2	124.20	2.14	0.13
5	Y = B0 + B1(D_remn) + B2(D_rip)	3	125.34	3.28	0.08
6	Y = B0 + B1(D_rip)	2	126.61	4.55	0.04
7	Y = B0 + B1(D_rip) + B2(D_fragment)	3	127.80	5.74	0.02
8	Y = B0 + B1(D_remn) + B2(D_rip) + B3(D_fragment)	4	128.27	6.21	0.02

b) Structural variables (at the plot level; arboreal cover within 100 m of plot center)

No	*Y-variable / candidate model*	*# parameters*	*[Q]AICc*	*Δ[Q]AICc*	*wi*
	Richness (# species)				
1	Y = B0 + B1(FORCOV)	2	85.25	0*	0.68
2	Y = B0 + B1(FORCOV) + B2(NP/ha)	3	88.30	3.05	0.15
3	Y = B0 + B1(FORCOV) + B2(SHDI)	3	88.31	3.06	0.15
4	Y = B0 + B1(FORCOV) + B2(SHDI) + B3(NP/ha)	4	91.91	6.66	0.02
5	Y = B0 + B1(SHDI)	2	101.80	16.55	0.00
6	Y = B0 + B1(SHDI) + B2(NP/ha)	3	104.69	19.44	0.00
7	Y = B0	1	116.67	31.42	0.00
8	Y = B0 + B1(NP/ha)	2	119.12	33.87	0.00
	Abundance (# individuals)				
1	Y = B0 + B1(FORCOV) + B2(NP/ha)	3	36.13	0*	0.40
2	Y = B0 + B1(FORCOV)	2	36.26	0.14*	0.38
3	Y = B0 + B1(FORCOV) + B2(SHDI)	3	38.55	2.43	0.12
4	Y = B0 + B1(FORCOV) + B2(SHDI) + B3(NP/ha)	4	38.83	2.71	0.10
5	Y = B0 + B1(SHDI) + B2(NP/ha)	3	94.29	58.16	0.00
6	Y = B0 + B1(SHDI)	2	95.65	59.52	0.00
7	Y = B0 + B1(NP/ha)	2	177.78	141.65	0.00
8	Y = B0	1	178.54	142.42	0.00
	Basal area (m^2)				
1	Y = B0 + B1(ED)	2	116.38	0.00*	0.54
2	Y = B0 + B1(ED) + B2(NP/ha)	3	118.84	2.46	0.16
3	Y = B0 + B1(ED) + B2(SHDI)	3	119.73	3.35	0.10
4	Y = B0 + B1(ED) + B2(AREA_AM)	3	120.01	3.63	0.09
5	Y = B0 + B1(SHDI)	2	122.98	6.60	0.02
6	Y = B0 + B1(ED) + B2(NP/ha) + B3(AREA_AM)	4	123.09	6.70	0.02
7	Y = B0 + B1(ED) + B2(SHDI) + B3(NP/ha)	4	123.19	6.81	0.02
8	Y = B0 + B1(AREA_AM)	2	123.50	7.12	0.02
9	Y = B0	1	123.69	7.31	0.01
10	Y = B0 + B1(ED) + B2(SHDI) + B3(AREA_AM)	4	124.08	7.70	0.01
11	Y = B0 + B1(SHDI) + B2(NP/ha)	3	125.73	9.34	0.01
12	Y = B0 + B1(SHDI) + B2(AREA_AM)	3	125.77	9.39	0.01
13	Y = B0 + B1(NP/ha)	2	125.98	9.59	0.00
14	Y = B0 + B1(AREA_AM) + B2(NP/ha)	3	126.48	10.10	0.00
15	Y = B0 + B1(AREA_AM) + B2(NP/ha) + B3(SHDI)	4	129.36	12.97	0.00

Isolation variables: distance to the nearest old-growth remnant (D_remn), distance to the nearest forested riparian belt (D_rip), and distance to the nearest forest or arboreal fragment >1 ha (D_fragment).

Structural variables within each circular plot: percent forest cover within plot (FORCOV); mean area of forested patches weighted by area (AREA_AM); landscape heterogeneity index (SHDI); patch density standardized by forest cover area (NP/ha); and forest-pasture edge density (ED) (See McGarigal, 2012 for more detail of each metric).

Table E.2. Values of model-averaged parameter estimates (*β*) and unconditional variance (UV) for the multi-model inference approach. The sign of *β* represents the positive or negative effect on each vegetation attribute (richness, abundance or basal area) by each predictor (whose inclusion in a given model is denoted by an 'x'); first, for isolation variables at the landscape level (**a**), and second, for structural variables at the plot level (**b**). Showing for each attribute: the sum of Akaike weights (Σ*wi_95%* and Σ*wi_Δ*), which represents the probability that from all variables included in the selected set of plausible models (Σ*wi* >0.95 and ΔAICc <2, respectively) a given predictor would be part of the theoretical model that is closest to the real one (*sensu* Burnham and Anderson 2002). Also shown are the accumulated Akaike weights (*wi_accum*) while adding top models, and the root mean squared error (RMSE) for each plausible model estimated by "leave one out cross validation" (LOOCV). The RMSE value shown in bold and inside a rectangle corresponds to the error estimate of the complete averaged model obtained by the multi-model inference approach. In parenthesis is shown the error estimated for the averaged model expressed as % of total variance (range) detected in field sampling.

a) Isolation variables

Response var.	Model number	Intercept	D_remn	D_rip	D_fragment	*wi_accum*	LOOCV-RMSE
Richness	1	x	x			0.28	±7.5
	2	x			x	0.48	±7.6
	3	x	x		x	0.68	±7.3
	4	x	x	x		0.77	±7.8
	5	x		x	x	0.85	±7.8
	6	x				0.92	±8.2
	7	x	x	x	x	0.97	±7.5
Σwi_95%		0.97	0.62	0.22	0.53		
Σ wi_Δ		0.68	0.48	0.00	0.40		
β estimate		3.11	-1.07E-04	6.20E-05	-4.14E-04		± **8.1 (27%)**
UV		0.02	8.68E-09	2.05E-08	1.88E-07		
Abundance	1	x			x	0.41	±76.5
	2	x	x		x	0.65	±76.9
	3	x		x	x	0.85	±80.4
	4	x	x	x	x	0.92	±80.5
	5	x	x			0.96	±88.2
Σwi_95%		0.97	0.35	0.28	0.93		
Σ wi_Δ		0.85	0.24	0.20	0.85		
β estimate		5.16	-7.53E-05	1.65E-04	-2.29E-03		± **80.8 (23%)**
UV		0.05	1.11E-08	6.98E-08	3.12E-07		
Basal area	1	x	x			0.39	±9.5
	2	x				0.56	±3.4
	3	x	x		x	0.70	±9.3
	4	x			x	0.83	±10.1
	5	x	x	x		0.91	±10.1
	6	x		x		0.95	±11.2
Σwi_95%		0.96	0.28	0.22	0.18		
Σ wi_Δ		0.57	0.39	0	0		
β estimate		16.70	-0.00	-0.00	-0.00		**±9.9 (30%)**
UV		21.31*	6.49E-06	5.30E-06	6.18E-05		

b) Structural variables

Response var.	Model number	Intercept	FORCOV	SHDI	NP/ha	*wi_accum*	LOOCV-RMSE
Richness	1	x	x			0.68	± 4.6
	2	x	x		x	0.83	± 4.9
	3	x	x	x		0.98	± 5.1
Σwi_95%		0.98	0.98	0.15	0.15		
Σ wi_Δ		0.68	0.68	0.00	0.00		
β estimate		2.38	0.03	0.01	0.00		**± 4.7 (16%)**
UV		0.02	0.00	0.01	0.00		
Abundance	1	x	x		x	0.40	±39.9
	2	x	x			0.78	±40.0
	3	x	x	x		0.90	±40.9
	4	x	x	x	x	1.00	±40.6
Σwi_95%		1.00	1.00	0.22	0.51		
Σ wi_Δ		1.00	0.78	0.00	0.40		
β estimate		3.49	0.30	0.25	0.18		**± 41.3 (12%)**
UV		0.57	0.00	0.27*	0.04		

Response var.	Model number	Intercept	ED	SHDI	NP/ha	AREA_AM	*wi_accum*	LOOCV-RMSE
Basal area	1	x	x				0.54	±7.9
	2	x	x		x		0.70	±8.2
	3	x	x	x			0.80	±8.4
	4	x	x			x	0.89	±9.1
	5	x		x			0.91	±9.5
	6	x	x		x	x	0.93	±9.3
	7	x	x	x	x		0.95	±8.7
	8	x				x	0.97	±11.1
Σwi_95%		0.96	0.92	0.14	0.19			
Σ wi_Δ		0.70	0.54	0.00	0.00			
β estimate		-4.57	0.0635	0.60	-0.28			**± 8.2 (25%)**
UV		32.76*	0.00	9.70*	0.72*			

Isolation variables: distance to the nearest old-growth remnant (D_remn), distance to the nearest forested riparian belt (D_rip), and distance to the nearest forest or arboreal fragment >1 ha (D_fragment)

Structural variables within each circular plot: percent forest cover within plot (FORCOV); mean area of forested patches weighted by area (AREA_AM); landscape heterogeneity index (SHDI); patch density standardized by forest cover area (NP/ha); and forest-pasture edge density (ED).

* Parameters of the averaged model for which the UV value is higher than its β-estimate, should be interpreted with caution (*sensu* Burnham and Anderson, 2002).

Table E.3. Results of the theoretical information-based model selection for richness and abundance based on the percent cover of the different types (i.e., classes) of forest cover (described below and shown in Fig. 2) present within each circular plot. Candidate models are ranked by their Akaike weigths (*wi*). The Akaike information criterion corrected for small sample size (AICc) and over-dispersion (*[Q]AICc*) is also shown, as well as their incremental differences with the most parsimonious model (*Δ[Q]AICc*). The subset of top models whose accumulated confidence surpassed 95% ($\Sigma w_i > 0.95$) are highlighted in gray, while those with *Δ[Q]AICc* <2 are marked with an asterisk (*).

No	***Y-variable / candidate model***	***# parameters***	***[Q]AICc***	***Δ[Q]AICc***	***wi***
	Richness				
1	Y = B0 + B1(IT+SWP) + B2(SFC) + B3(TFC(+RF))	4	97.35	0*	0.67
2	Y = B0 + B1(IT+SWP) + B2(TFC(+RF))	3	100.05	2.70	0.17
3	Y = B0 + B1(SFC) + B3(TFC(+RF))	3	100.92	3.57	0.11
4	Y = B0 + B1(TFC(+RF))	2	102.81	5.46	0.04
5	Y = B0 + B1(IT+SWP) + B2(SFC)	3	113.95	16.60	0.00
6	Y = B0 + B1(IT+SWP)	2	114.04	16.70	0.00
7	Y = B0	1	128.11	30.76	0.00
8	Y = B0 + B1(SFC)	2	129.54	32.19	0.00
	Abundance				
1	Y = B0 + B1(IT+SWP) + B2(SFC) + B3(TFC(+RF))	4	29.03	0*	0.90
2	Y = B0 + B1(SFC) + B2(TFC(+RF))	3	33.50	4.48	0.10
3	Y = B0 + B1(IT+SWP) + B2(TFC(+RF))	3	44.25	15.22	0.00
4	Y = B0 + B1(TFC(+RF))	2	46.26	17.23	0.00
5	Y = B0 + B1(IT+SWP) + B2(SFC)	3	76.70	47.67	0.00
6	Y = B0 + B1(IT+SWP)	2	82.77	53.74	0.00
7	Y = B0 + B1(SFC)	2	107.36	78.33	0.00
8	Y = B0	1	107.57	78.54	0.00

Forest cover types (classes): TFC(+RF) (tall canopy forest, including the two remnants forest fragments), SFC (short canopy forest pooled with urban orchards), and IT+SWP (isolated trees pooled with small wooded patches that include linear clusters of planted trees in living fences).

Table E.4. Values of model-averaged parameter estimates (β) and unconditional variance (UV) of informatics-theoretic-based model selection and multi-model inference. The sign of β represents the positive or negative effect on each vegetation attribute (richness or abundance) by each class of forest cover type used as a predictor (described below and shown in Fig. 2), whose inclusion in a given model is denoted by an 'x'. Showing for each attribute: the sum of Akaike weights (Σ*wi_95%* and Σ*wi_*Δ), which represents the probability that from all variables included in the selected set of plausible models (Σ*wi* >0.95 and ΔAICc <2, respectively) a given predictor would be part of the theoretical model that is closest to the real one (*sensu* Burnham and Anderson 2002). Also shown are the accumulated Akaike weights (*wi_accum*) while adding top models, and the root mean squared error (RMSE) for each plausible model estimated by "leave one out cross validation" (LOOCV). The RMSE value shown in bold and inside a rectangle corresponds to the error estimate of the complete averaged model obtained by the multi-model inference approach. In parenthesis is shown the error estimated for the averaged model expressed as % of total variance (range) detected in field sampling.

Response var.	**Model number**	**Intercept**	**IT+SWP**	**SFC**	**TFC(+RF)**	***wi_accum***	**LOOCV-RMSE**
Richness	1	x	x	x	x	0.67	±6.9
	2	x	x		x	0.84	±5.1
	3	x		x	x	0.95	±4.9
Σwi_95%		1	0.84	0.78	0.96		
Σ wi_Δ		0.67	0.67	0.67	0.67		
β estimate		2.32	0.04	0.02	0.03		**± 6.4 (21%)**
UV		0.03	0.00	0.00	0.00		
Abundance	1	x	x	x	x	0.90	±54.3
	2	x		x	x	1.00	±40.9
Σwi_95%		0.90	0.90	1.00	1.00		
Σ wi_Δ		1.00	0.90	0.90	0.90		
β estimate		0.33	0.30	4.60	0.24		**± 54.3 (16%)**
UV		0.00	0.01	0.67	0.00		

Forest cover types (classes): TFC(+RF) (tall canopy forest, including the two remnant forest fragments), SFC (short canopy forest pooled with urban orchards), and IT+SWP (isolated trees pooled with small wooded patches that include linear clusters of planted trees in living fences).