Appendix 1. Input data

Forest type map

We used the forest type map of the Formosa Law (Provincial law #1552/10) which was originally generated by visual interpretation of Landsat images in 2006 (at a scale of 1:250.000) and validated in-situ (Adámoli et al. 2006, unpublished technical report). We reclassified the forest classes of the original forest map of 2006 into the categories used in the Law 1552/10 (Table A1.1). Forest cover was updated to 2015 by deforested areas converted to agriculture or pastures (Arriaga Velasco-Aceves 2017) with a minimum mapping unit of 5 ha. We thus obtained a forest type map for the year 2015 that was converted to raster format at a 300 m pixel (Fig. A1.1).

Low forest includes mainly woody communities dominated by *Prosopis sp.*and presence of others species like *Tabebuia nodosa, Geoffroea decorticans* and *Copernicia alba*, among others. Tall forest includes different woody communities, like river margin forest, a semi-deciduous, seasonal forest located at the side of the rivers in the east of the province. River margin forest has high species diversity with presence of *Tabebuia heptaphylla, Cordia americana, Gleditsia amorphoides, Syagrus romanzoffiana, Enterolobium contortisiliquum,* among others. Tall forest also includes *"quebrachales"*, a deciduous or semideciduous thorny forest dominated by *Schinopsis balansae* in the east and *S. lorentzii* in the west of the province (Prado 1993, Adámoli et al. 2006, unpublished technical report).

Table A1.1. Correspondences between forest categories in the base forest map of 2006, and those used for the application of Formosa Law. TF: Tall forest, LF: Low Forest.

Adámoli et al. 2006	Forest type
Bosque alto	TF
Bosque en cauce autóctono	TF
Isletas de bosque alto	TF
Bosque bajo	LF
Bosque bajo inundable	LF

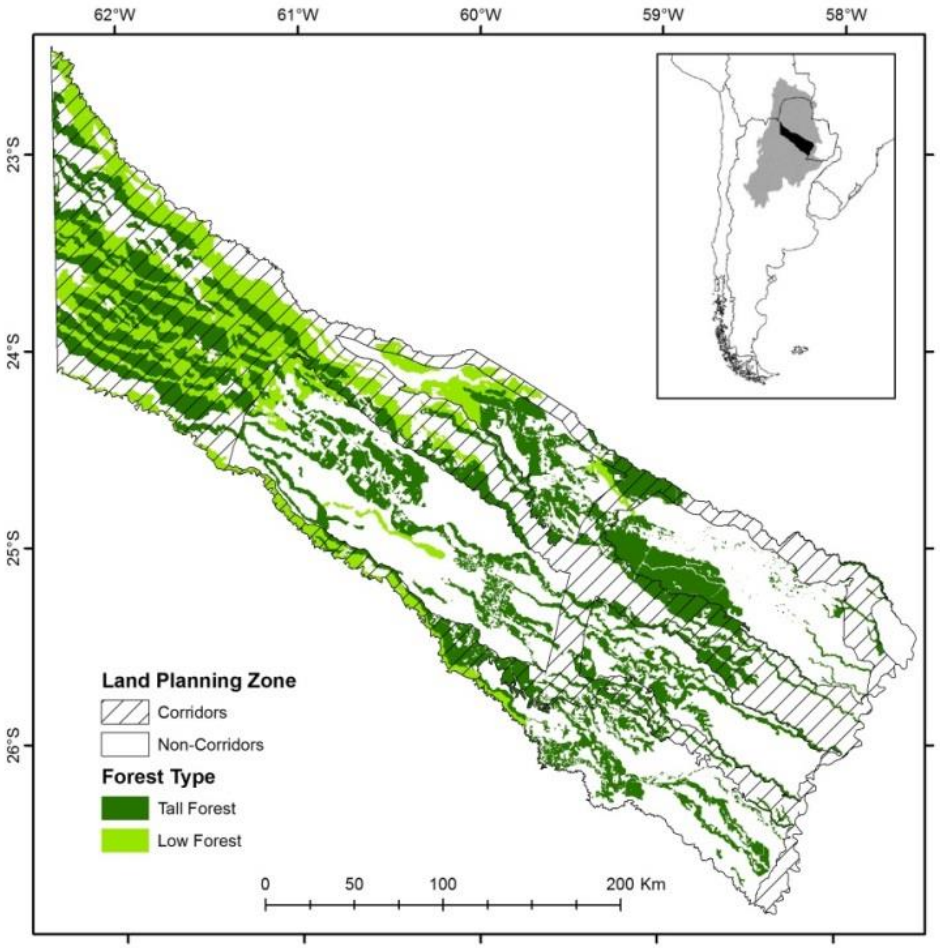

Figure A1.1. Forest-type map used as a base for our spatial simulations.

Cadastral map

The cadastral division of Formosa is heterogeneous, ranging from very small plots in the east to very big plots and unparceled areas in the west. To obtain a complete cadastral map, in those areas not defined by cadaster plots (e.g. "tierras fiscales"-public lands), we simulated a cadastral division using square grids with the median cadaster-plot size in each department (i.e., the smallest administrative unit in Argentina, comparable to municipalities in the EU and counties in the USA, see inlet in Fig. A1.2). Real cadaster plots cover 4.4 million hectares (58.7% of the Province surface, Fig. A1.2). We did not consider plots <100 ha as these together only make for 0.9% of the forest and dropping these patches tremendously increased the computational efficiency of our analyses.

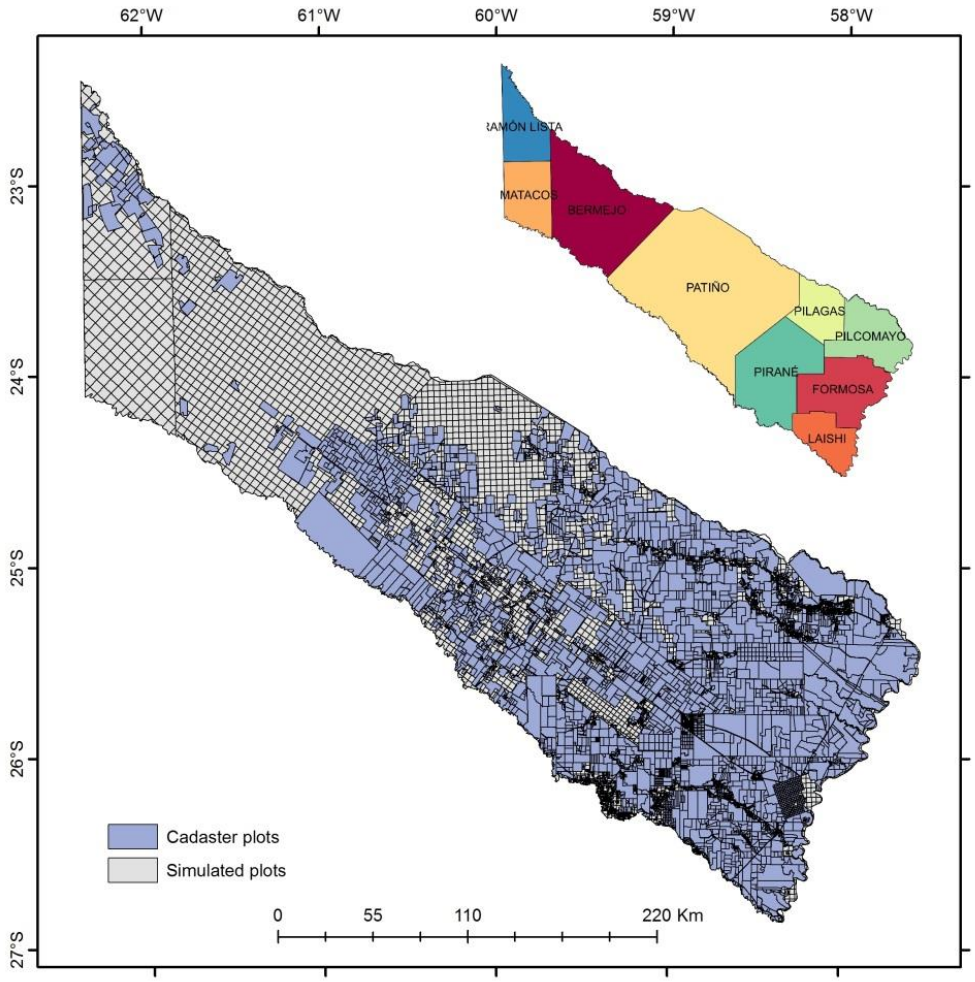

Figure A1.2. Cadaster map with actual and simulated plots used as base for the spatial simulations. Upper right: Administrative division of the province in departments.

Literature cited

Arriaga Velasco-Aceves 2017. Expansión agropecuaria en la Provincia de Formosa: pérdida de ambientes naturales y fragmentación de bosques entre 2001 y 2015. Tesis de licenciatura. Facultad de Ciencias Exactas y Naturales. Universidad de Buenos Aires.

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