

Table S1. Correspondence between the original Corine land cover (CLC) classification at level 3 and the final land cover (FLC) classification prepared for this study. The supporting cartographic resources used to unravel misclassifications are also shown.

FLC	CLC original classes	Additional cartographic resources
(1) Urban areas	Continuous urban fabrics (111), discontinuous urban fabrics (112), industrial or commercial units (121), road and rail networks and associated land (122), port areas (123), airports (124), mineral extraction sites (131), dump sites (132), construction sites (133), green urban areas (141), sport and leisure facilities (142)	Urban infrastructure map (settlements) (scale 1:5,000) (www.ign.es)
(2) Water bodies and wetlands	Inland marshes (411), marshes (421), intertidal flats (423), water courses (511), water bodies (512), coastal lagoons (521), sea and ocean (523), estuaries (522)	
(3) Sparsely vegetated areas	Bare rock (332), sparsely vegetated areas (333), natural grasslands (321), beaches, dunes and plains	
(4) Agricultural areas	Non-irrigated arable lands (211), permanently irrigated lands (212), vineyards (221), fruit trees and berry plantations (222) pastures (231), complex cultivation patterns (241), crop mosaic (242), agricultural lands with important natural vegetation (243), agro-forestry areas (244)	
(5) Heathlands and shrublands	Heathlands (322), sclerophyllous vegetation (323), transitional woodland-shrub (324), burnt areas (334)	
(6) Tree plantations	Broadleaved forests (311), coniferous forests (312)	SFM50a (scale 1:50,000; period 1986-1996), SFM50b (scale 1:50,000; period 1997-2007), SFM25 (scale 1:25,000, period 2008-2021)
(7) Native forests of broadleaved trees	Broadleaved forests (311), mixed forests (313)	

SFM-x: Spanish National Forest Map (www.miteco.gob.es)

Figure S1. FLC multi-temporal dataset (1990, 2000, 2006, 2012 and 2018) used to calculate the passive forest recovery index (PFRI).

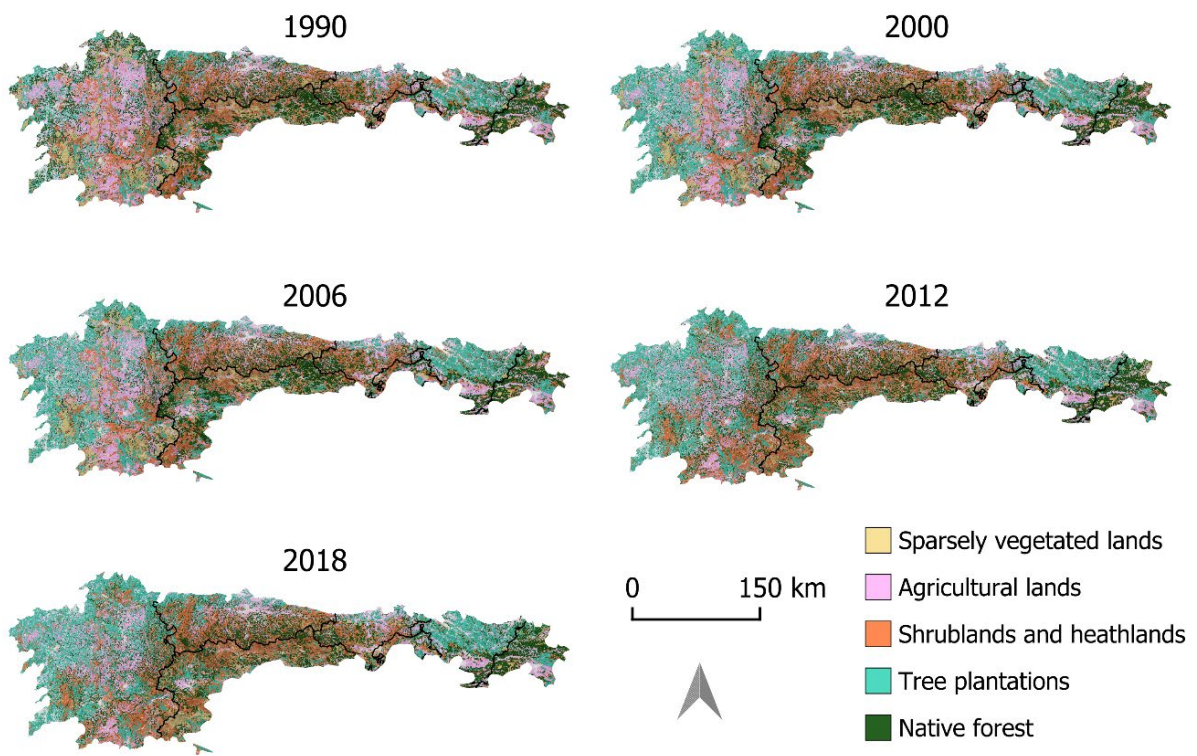


Table S2. Accuracy of the 2018 FLC classification. Producer’s accuracy or recall (PA), user’s accuracy or precision (UA), F-score (Fs, combination of precision and recall), overall accuracy (OA) and Kappa index.

Land cover class	Recall (PA)	Precision (UA)	F-Score (Fs)
Urban areas (1)	1	0.9434	0.9709
Water bodies and wetlands (2)	1	1	1
Sparsely vegetated areas (3)	0.8800	0.9565	0.9167
Agricultural areas (4)	0.8200	0.9318	0.8723
Heathlands and shrublands (5)	0.9200	0.8846	0.9020
Tree plantations (6)	0.9600	0.9796	0.9697
Forests (7)	0.9800	0.8750	0.9245

Overall accuracy (OA): 0.9371

Kappa index: 0.9267

Table S3. Land cover change from 1990 to 2018 in the Spanish Ibero-Atlantic biogeographical region. Values report percentages relative to the surface of the study area (69,282.23 km²). Rows indicate land cover classes in 1990 and columns the classes in 2018. The diagonal values (bold) represent the percentage of land that remained unchanged and off-diagonal values the transition of a given class to another. Only the most relevant land cover transitions for passive rewilding are represented, then global percentages are lower than 100%.

1990 → \ 2018 ↓	Sparsely vegetated areas (3)	Agricultural areas (4)	Heathlands-shrublands (5)	Tree plantations (6)	Native forests (7)	Total 1990	1990-2018 change
Sparsely vegetated areas (3)	2.62	0.55	4.29	0.90	0.57	8.93	-2.47
Agricultural areas (4)	0.48	13.80	1.86	3.11	2.58	21.83	-4.57
Heathlands, shrublands (5)	2.30	1.36	10.38	4.44	3.41	21.89	-0.85
Tree plantations (6)	0.27	0.60	1.49	11.77	1.10	15.23	10.66
Native forests (7)	0.79	0.95	3.02	5.67	12.02	22.46	-2.78
Total 2018	6.47	17.26	21.05	25.90	19.68	90.35	

Table S4. Socio-environmental variables tested as drivers of passive forest recovery (PFRI). The effect (positive or negative), F-value, adjusted R-square, explained variance (in brackets) and p-value are shown.

Family	Variable	Effect	F-value	Adjusted R²	p-value
Geographic position	Longitude (coordinate X)	+	3.83	0.0016 (0.16%)	*
	Latitude (coordinate Y)	+	46.27	0.0243 (2.43%)	***
	Elevation	-	311.50	0.1457 (14.57%)	***
Climate	Annual maximum temperature (bio5)	+	123.8	0.0632 (6.32%)	***
	Annual range of temperature (bio7)	-	35.76	0.0188 (1.88%)	***
	Annual precipitation amount (bio12)	-	24.86	0.0129 (1.29%)	***
Topography	Slope	-	27.54	0.0144 (1.44%)	***
Accessibility and population	Distance to the nearest settlement	-	245.90	0.1185 (11.85%)	***
	Distance to the nearest road	-	163.70	0.0820 (8.20%)	***
	Change in population density (inhabitants/km ² ; 1990 - 2018)	+	1.84	0.0005 (0.05%)	n.s.

*Signification codes: ***(p-value < 0.001), **(p-value < 0.01), *(p-value < 0.05) and ns (p-value > 0.05).*