S1. Supplementary Materials

Matrix structures and simulations parameters

Table S1. projection matrix model of buffelgrass plants from El Diamante corresponding to 2006-2007. Value 0.001 for plant establishment, λ=1.0018 (1.0016-1.0019).

	1 - 10	***11 - 20***	***21 - 40***	***41- 60***	***61 - 80***	***> 81***
1 - 10	0.5909	0.0003	0.0010	0.0010	0.0021	0.0030
11 - 20	0.4090	0.1666	0	0	0	0
21 - 40	0	0.8333	0.8571	0	0	0
41 - 60	0	0	0.1428	0.5	0.3	0
61 - 80	0	0	0	0.5	0.7	0.01
> 81	0	0	0	0	0	0.99

Table S2. projection matrix model of buffelgrass plants from El Diamante corresponding to 2006-2007. Value 0.01 for plant establishment, λ=1.0166 (1.0164-1.0168).

	1 - 10	***11 - 20***	***21 - 40***	***41 - 60***	***61- 80***	***> 81***
1 - 10	0.5909	0.0032	0.0105	0.0117	0.0217	0.0291
11 - 20	0.4090	0.1666	0	0	0	0
21 - 40	0	0.8333	0.8571	0	0	0
41 - 60	0	0	0.1428	0.5	0.3	0
61 - 80	0	0	0	0.5	0.7	0.01
> 81	0	0	0	0	0	0.99

Table S3. projection matrix model of buffelgrass plants from El Diamante corresponding to 2006-2007. Value 0.1 for plant establishment, λ=1.1050 (1.1048-1.1052).

	1 - 10	***11 - 20***	***21 - 40***	***41 - 60***	***61 - 80***	***> 81***
1 - 10	0.5909	0.0329	0.1057	0.1171	0.2177	0.2911
11 - 20	0.4090	0.1666	0	0	0	0
21 - 40	0	0.8333	0.8571	0	0	0
41 - 60	0	0	0.1428	0.5	0.3	0
61 - 80	0	0	0	0.5	0.7	0.01
> 81	0	0	0	0	0	0.99

Table S4. projection matrix model of buffelgrass plants from El Diamante corresponding to 2007-2008. Value 0.001 for plant establishment, λ=1.0002 (1.0001-1.0004).

	1 - 10	***11 - 20***	***21 - 40***	***41 - 60***	***61 - 80***	***> 81***
1 - 10	0.3571	0.00005	0.0002	0.0005	0.0001	0.0008
11 - 20	0.6428	0.1666	0.2727	0	0	0
21 - 40	0	0.8333	0.7272	0	0	0
41 - 60	0	0	0	0.5	0	0
61 - 80	0	0	0	0.5	0.8	0.5625
> 81	0	0	0	0	0.2	0.4375

Table S5. projection matrix model of buffelgrass plants from El Diamante corresponding to 2007-2008. Value 0.01 for plant establishment, λ=1.0033 (1.0030-1.0034).

	1 - 10	***11 - 20***	***21 - 40***	***41 - 60***	***61 - 80***	***> 81***
1 - 10	0.3571	0.0005	0.0025	0.0117	0.0038	0.0086
11 - 20	0.6428	0.1666	0.2727	0	0	0
21 - 40	0	0.8333	0.7272	0	0	0
41 - 60	0	0	0	0.5	0	0
61 - 80	0	0	0	0.5	0.8	0.5625
> 81	0	0	0	0	0.2	0.4375

Table S6. projection matrix model of buffelgrass plants from El Diamante corresponding to 2007-2008. Value 0.1 for plant establishment, λ=1.0233 (1.0232-1.0235).

	1 - 10	***11 - 20***	***21 - 40***	***41 - 60***	***61 - 80***	***> 81***
1 - 10	0.3571	0.0055	0.0250	0.0515	0.0382	0.0869
11 - 20	0.6428	0.1666	0.2727	0	0	0
21 - 40	0	0.8333	0.7272	0	0	0
41 - 60	0	0	0	0.5	0	0
61 - 80	0	0	0	0.5	0.8	0.5625
> 81	0	0	0	0	0.2	0.4375

Table S7. projection matrix model of buffelgrass plants from La Noria corresponding to 2006-2007. Value 0.001 for plant establishment, λ= 1.0015 (1.0014-1.0016).

	1 - 10	***11 - 20***	***21 - 40***	***41 - 60***	***61 - 80***	***> 81***
1-a 10	0.7142	2.249E-05	0.0455	0.0001	0.0002	0.0011
11 - 20	0.2857	0.875	0	0	0	0
21 - 40	0	0.125	0.8333	0	0	0
41 - 60	0	0	0.1666	0.5	0	0
61 - 80	0	0	0	0.5	0.01	0.5
> 81	0	0	0	0	0.99	0.5

Table S8. projection matrix model of buffelgrass plants from La Noria corresponding to 2006-2007. Value 0.01 for plant establishment, λ=1.0376 (1.0373-1.0378).

	1 - 10	***11 - 20***	***21 - 40***	***41 - 60***	***61 - 80***	***> 81***
1 - 10	0.7142	0.0002	0.0005	0.0015	0.0025	0.1109
11 - 20	0.2857	0.875	0	0	0	0
21 - 40	0	0.125	0.8333	0	0	0
41 - 60	0	0	0.1666	0.5	0	0
61 - 80	0	0	0	0.5	0.01	0.5
> 81	0	0	0	0	0.99	0.5

Table S9. projection matrix model of buffelgrass plants from La Noria corresponding to 2006-2007. Value 0.1 for plant establishment, λ=1.0414 (1.0412-1.0416).

	1 - 10	***11 - 20***	***21 - 40***	***41 - 60***	***61 - 80***	***> 81***
1 - 10	0.7142	0.0022	0.0091	0.0156	0.0256	0.1109
11 - 20	0.2857	0.875	0	0	0	0
21 - 40	0	0.125	0.8333	0	0	0
41 - 60	0	0	0.1666	0.5	0	0
61 - 80	0	0	0	0.5	0.01	0.5
> 81	0	0	0	0	0.99	0.5

Table S10. projection matrix model of buffelgrass plants from La Noria corresponding to 2007-2008. Value 0.001 for plant establishment, λ=1.0013 (1.0011-1.0015).

	1 - 10	***11 - 20***	***21-a 40***	***41 - 60***	***61 - 80***	***> 81***
1 - 10	0.7826	1.5228E-05	0.0195	0.0001	0.0002	0.0008
11 - 20	0.2173	0.5	0	0	0	0
21 - 40	0	0.5	0.8	0	0	0
41 - 60	0	0	0.2	0.5	0	0
61 - 80	0	0	0	0.5	0.01	0.9230
> 81	0	0	0	0.5	0.99	0.0769

Table S11. projection matrix model of buffelgrass plants from La Noria corresponding to 2007-2008. Value 0.01 for plant establishment, λ=1.0317 (1.0315-1.0319).

	1 - 10	***11 - 20***	***21 - 40***	***41 - 60***	***61 - 80***	***> 81***
1 - 10	0.7142	0.0001	0.0003	0.0013	0.0027	0.0841
11-a 20	0.2857	0.875	0	0	0	0
21 - 40	0	0.125	0.8333	0	0	0
41 - 60	0	0	0.16666	0.5	0	0
61 - 80	0	0	0	0.5	0.01	0.5
> 81	0	0	0	0	0.99	0.5

Table S12. projection matrix model of buffelgrass plants from La Noria corresponding to 2007-2008. Value 0.1 for plant establishment, λ=1.0355 (1.0352-1.0357).

	1 - 10	***11 - 20***	***21 - 40***	***41 - 60***	***61 - 80***	***> 81***
1 - 10	0.7142	0.0015	0.0039	0.0132	0.0279	0.0841
11 - 20	0.2857	0.875	0	0	0	0
21 - 40	0	0.125	0.8333	0	0	0
41 - 60	0	0	0.1666	0.5	0	0
61 - 80	0	0	0	0.5	0.01	0.5
> 81	0	0	0	0	0.99	0.5