

Supplementary material

**Appendix 1. Treatment altered the relative frequency of movements between the seven habitat patches**

Data used for the computation of the relative frequency of movements between the seven habitat patches (E), as described in the main text. Numbers of couples of successive (re)captures observed for each pair of start-target patches, both before (A) and after (B) the treatment. Corresponding proportions of the total number of movements originating from each of the seven patches, both before (C) and after (D) the treatment. The sum of numbers in A and B for each pair of patch was used as weight in the computation of the mean for each category of movement (untreated to untreated, untreated to treated, treated to untreated, treated to treated) and the corresponding one way ANOVA. The treatment drastically modified the dispersal pattern in this metapopulation. More interpatch movements ended in untreated patches, fewer in treated patches. The consequence was an influx of immigrants into untreated patches.

(A) Number of movements (before treatment: 11 generations)

Start patch	Untreated			Target patch				Total	
	1	5	7	2	3	4	6		
untreated	1	2432	35	16	175	232	32	6	2928
	5	22	661	30	2	13	27	43	798
	7	2	30	93	0	3	5	7	140
treated	2	148	4	0	123	55	1	1	332
	3	227	17	2	53	558	13	4	874
	4	17	25	2	1	6	155	1	207
	6	5	32	17	2	1	5	42	104

(B) Number of movements (after treatment: 6 generations)

Start patch	Untreated			Target patch				Total	
	1	5	7	2	3	4	6		
untreated	1	1174	44	14	17	39	6	5	1299
	5	30	496	37	0	5	6	16	590
	7	8	39	45	0	1	1	3	97
treated	2	11	2	0	1	5	0	0	19
	3	44	7	1	1	45	0	1	99
	4	7	1	2	0	0	4	0	14
	6	0	16	6	0	0	0	2	24

(C) Proportion  $%ija$  of movements from start patch (before treatment: 11 generations)

Start patch		Untreated			Target patch				Total
		1	5	7	2	3	4	6	
untreated	1	83.1%	1.2%	0.5%	6.0%	7.9%	1.1%	0.2%	100%
	5	2.8%	82.8%	3.8%	0.3%	1.6%	3.4%	5.4%	100%
	7	1.4%	21.4%	66.4%	0.0%	2.1%	3.6%	5.0%	100%
treated	2	44.6%	1.2%	0.0%	37.0%	16.6%	0.3%	0.3%	100%
	3	26.0%	1.9%	0.2%	6.1%	63.8%	1.5%	0.5%	100%
	4	8.2%	12.1%	1.0%	0.5%	2.9%	74.9%	0.5%	100%
	6	4.8%	30.8%	16.3%	1.9%	1.0%	4.8%	40.4%	100%

(D) Proportion  $%ijb$  of movements from start patch (after treatment: 6 generations)

Start patch		Untreated			Target patch				Total
		1	5	7	2	3	4	6	
untreated	1	90.4%	3.4%	1.1%	1.3%	3.0%	0.5%	0.4%	100%
	5	5.1%	84.1%	6.3%	0.0%	0.8%	1.0%	2.7%	100%
	7	8.2%	40.2%	46.4%	0.0%	1.0%	1.0%	3.1%	100%
treated	2	57.9%	10.5%	0.0%	5.3%	26.3%	0.0%	0.0%	100%
	3	44.4%	7.1%	1.0%	1.0%	45.5%	0.0%	1.0%	100%
	4	50.0%	7.1%	14.3%	0.0%	0.0%	28.6%	0.0%	100%
	6	0.0%	66.7%	25.0%	0.0%	0.0%	0.0%	8.3%	100%

(E) Relative change:  $(%ija - %ijb) / %ijb$ 

Start patch		Untreated			Target patch			
		1	5	7	2	3	4	6
untreated	1	9%	183%	97%	-78%	-62%	-58%	88%
	5	84%	1%	67%	-100%	-48%	-70%	-50%
	7	477%	88%	-30%		-52%	-71%	-38%
treated	2	30%	774%		-86%	59%	-100%	-100%
	3	71%	264%	341%	-83%	-29%	-100%	121%
	4	509%	-41%	1379%	-100%	-100%	-62%	-100%
	6	-100%	117%	53%	-100%	-100%	-100%	-79%