Supplementary Material:
Effectiveness of community-based marine reserves in small-scale fisheries

1 SUPPLEMENTARY DATA

Raw data and code are available on GitHub at: https://github.com/jcvdav/ReserveEffect

2 SUPPLEMENTARY TABLES AND FIGURES

2.1 Tables

Table S1. Coefficient estimates of biological indicators for Isla Natividad.

	Dependent variable:			
	Lobster abundance	Fish biomass	Invertebrate abundance	Invertebrate biomass
	(1)	(2)	(3)	(4)
zonaReserva	-0.011 (0.058)	-0.004 (0.003)	0.002 (0.020)	-0.011 (0.017)
year1	0.032 (0.067)	-0.006 (0.004)	-0.027 (0.021)	0.014 (0.019)
year2	0.0002 (0.077)	-0.006^{*} (0.003)	0.002 (0.020)	-0.002 (0.019)
year3	0.023 (0.072)	0.002 (0.003)	0.014 (0.020)	0.040^{*} (0.023)
year4	-0.030 (0.058)	-0.004 (0.003)	-0.009 (0.020)	0.006 (0.018)
year5	-0.006 (0.061)	-0.001 (0.003)	0.006 (0.020)	0.007 (0.017)
year6	-0.014 (0.062)	0.009^{**} (0.004)	0.014 (0.020)	0.051^{**} (0.023)
year7	-0.021 (0.060)	0.079^{***} (0.013)	-0.044^{*} (0.023)	0.062^{***} (0.019)
year8	-0.026 (0.059)	0.032^{***} (0.006)	-0.029 (0.020)	0.031 (0.020)
year9	-0.038 (0.057)	0.047^{***} (0.011)	-0.021 (0.025)	0.084^{***} (0.023)
year10	-0.066 (0.057)	0.048^{***} (0.010)	-0.107^{***} (0.024)	0.011 (0.018)
zonaReserva:year1	-0.058 (0.078)	0.007 (0.005)	0.041 (0.031)	0.007 (0.024)
zonaReserva:year2	0.126 (0.121)	0.005 (0.005)	0.049 (0.033)	0.006 (0.023)
zonaReserva:year3	0.053 (0.093)	0.003 (0.004)	0.004 (0.027)	-0.012 (0.027)
zonaReserva:year4	0.035 (0.065)	0.009^{**} (0.004)	0.017 (0.030)	0.046^{*} (0.024)
zonaReserva:year5	-0.045 (0.068)	0.002 (0.004)	0.013 (0.029)	-0.008 (0.021)
zonaReserva:year6	0.096 (0.075)	-0.002 (0.005)	0.013 (0.029)	-0.011 (0.026)
zonaReserva:year7	-0.030 (0.065)	-0.016 (0.021)	0.012 (0.033)	-0.0005 (0.027)
zonaReserva:year8	0.012 (0.069)	0.030 (0.019)	0.032 (0.028)	0.003 (0.025)
zonaReserva:year9	0.002 (0.064)	0.008 (0.014)	-0.077^{**} (0.036)	0.003 (0.029)
zonaReserva:year10	-0.016 (0.062)	-0.011 (0.018)	-0.018 (0.034)	0.010 (0.025)
Constant	0.122^{**} (0.054)	-0.002 (0.007)	0.059^{***} (0.018)	0.114^{***} (0.041)
Observations	659	2,340	3,714	2,340
R^2	0.049	0.217	0.426	0.128
Residual Std. Error	0.189 (df = 637)	0.075 (df = 2306)	0.187 (df = 3667)	0.139 (df = 2306)

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Table S2. Coefficient estimates of biological indicators for Maria Elena.

	Dependent variable:			
	Lobster abundance	Fish biomass	Invertebrate abundance	Invertebrate biomass
	(1)	(2)	(3)	(4)
zonaReserva	−0.033** (0.013)	−0.001 (0.002)	−0.007 (0.021)	−0.024 (0.047)
year1	0.008 (0.023)	0.003* (0.002)	0.010 (0.019)	−0.034 (0.038)
year2	−0.019 (0.015)	0.001 (0.002)	−0.004 (0.015)	−0.037 (0.044)
year3	−0.028** (0.014)	−0.0001 (0.002)	−0.002 (0.016)	−0.057 (0.040)
year4	0.023 (0.028)	0.0003 (0.002)	0.022 (0.022)	0.045 (0.041)
zonaReserva:year1	−0.003 (0.024)	0.004* (0.002)	0.008 (0.023)	0.065 (0.051)
zonaReserva:year2	0.046* (0.024)	0.002 (0.002)	0.017 (0.022)	0.020 (0.053)
zonaReserva:year3	0.074*** (0.024)	0.001 (0.002)	0.039 (0.040)	0.012 (0.049)
zonaReserva:year4	0.001 (0.031)	0.003 (0.002)	−0.001 (0.027)	−0.041 (0.052)
Constant	0.033** (0.013)	−0.0004 (0.001)	0.010 (0.019)	0.133*** (0.040)
Observations	48	1,140	75	1,140
R^2	0.222	0.804	0.199	0.248
Residual Std. Error	0.038 (df = 38)	0.010 (df = 1086)	0.035 (df = 57)	0.175 (df = 1086)

Note: *p<0.1; **p<0.05; ***p<0.01

Table S3. Coefficient estimates of biological indicators for Punta Herrero.

	Dependent variable:			
	Lobster abundance	Fish biomass	Invertebrate abundance	Invertebrate biomass
	(1)	(2)	(3)	(4)
zonaReserva	0.004 (0.009)	0.014** (0.005)	0.069** (0.035)	0.170*** (0.054)
year-1	−0.006 (0.007)	−0.001 (0.002)	0.019 (0.022)	−0.087*** (0.031)
year1	−0.008 (0.005)	−0.003 (0.002)	−0.0001 (0.018)	−0.073*** (0.028)
year2	0.004 (0.009)	−0.002 (0.002)	0.032** (0.014)	−0.053* (0.028)
year3	−0.001 (0.006)	−0.002 (0.002)	0.038* (0.020)	−0.016 (0.032)
zonaReserva:year-1	0.017 (0.023)	−0.013* (0.008)	−0.044 (0.043)	−0.134* (0.081)
zonaReserva:year1	0.018 (0.024)	−0.011* (0.006)	0.048 (0.071)	−0.021 (0.065)
zonaReserva:year2	0.019 (0.021)	−0.001 (0.008)	−0.076 (0.048)	0.032 (0.086)
zonaReserva:year3	0.016 (0.016)	−0.013* (0.007)	−0.012 (0.047)	−0.110 (0.069)
Constant	0.011** (0.005)	−0.001 (0.002)	0.092*** (0.023)	0.122*** (0.046)
Observations	124	1,626	262	1,626
R^2	0.051	0.345	0.127	0.271
Residual Std. Error	0.049 (df = 114)	0.051 (df = 1566)	0.165 (df = 243)	0.506 (df = 1566)

Note: *p<0.1; **p<0.05; ***p<0.01

Table S4. Coefficient estimates of socioeconomic indicators Isla Natividad.

	Dependent variable:	
	Landings	valor Revenues
	(1)	(2)
zonaReserva	−29.442** (11.650)	−5.560 (4.495)
year-6	−9.747 (24.616)	6.074 (6.641)
year-5	−26.548* (13.992)	2.106 (8.285)
year-4	−8.805 (29.871)	−1.665 (6.046)
year-3	29.433 (28.151)	2.834 (4.858)
year-2	−17.752 (13.634)	3.423 (5.278)
year-1	−5.421 (22.370)	1.095 (4.431)
year1	−46.722*** (16.583)	−1.873 (5.213)
year2	9.037 (11.830)	10.802** (4.612)
year3	−23.798 (21.989)	9.425** (4.566)
year4	−54.097*** (16.698)	2.816 (4.498)
year5	48.012** (22.367)	10.380* (5.667)
year6	39.160* (21.590)	12.549* (7.129)
year7	−11.992 (10.746)	10.988 (10.889)
year8	−26.265** (12.598)	14.186 (13.017)
zonaReserva:year-6	−12.067 (24.616)	−1.980 (6.641)
zonaReserva:year-5	6.214 (13.992)	−1.715 (8.285)
zonaReserva:year-4	−26.453 (29.871)	−1.237 (6.046)
zonaReserva:year-3	−18.071 (28.151)	−2.213 (4.858)
zonaReserva:year-2	5.569 (13.634)	−2.142 (5.278)
zonaReserva:year-1	−13.914 (22.370)	−1.703 (4.431)
zonaReserva:year1	−0.696 (16.583)	−1.119 (5.213)
zonaReserva:year2	1.436 (11.830)	8.758* (4.612)
zonaReserva:year3	10.607 (21.989)	12.639*** (4.566)
zonaReserva:year4	−6.110 (16.698)	2.515 (4.498)
zonaReserva:year5	−61.368*** (22.367)	0.047 (5.667)
zonaReserva:year6	−2.498 (21.590)	12.371* (7.129)
zonaReserva:year7	6.842 (10.746)	3.441 (10.889)
zonaReserva:year8	65.875 (12.598)	10.347 (13.017)
Constant	166.062*** (11.650)	16.037*** (4.495)
Observations	60	60
R^2	0.888	0.647
Residual Std. Error (df = 28)	25.072	8.460

Note: *p<0.1; **p<0.05; ***p<0.01

Table S5. Coefficient estimates of socioeconomic indicators for Maria Elena.

	Dependent variable:	
	Landings	valor Revenues
	(1)	(2)
zonaReserva	−38.159*** (11.296)	−6.065*** (1.413)
year-9	−15.392 (10.833)	−4.118** (1.899)
year-8	−2.753 (16.161)	−2.043 (1.515)
year-7	−1.752 (17.095)	−1.738 (1.783)
year-6	−10.495 (10.778)	−3.715** (1.593)
year-5	−1.865 (16.596)	−0.997 (2.477)
year-4	−7.648 (12.383)	1.206 (5.122)
year-3	−35.327*** (11.296)	−6.648*** (1.413)
year-2	2.857 (16.888)	−0.051 (2.635)
year-1	7.520 (11.003)	0.151 (1.212)
year1	−9.668 (28.420)	−1.990 (4.472)
year2	−7.268 (26.926)	−0.964 (4.315)
zonaReserva:year-9		
zonaReserva:year-8		
zonaReserva:year-7		
zonaReserva:year-6	−7.994 (10.778)	−0.607 (1.593)
zonaReserva:year-5	−12.027 (16.596)	−2.239 (2.477)
zonaReserva:year-4	−11.520 (12.383)	−4.595 (5.122)
zonaReserva:year-3		
zonaReserva:year-2	−18.128 (16.888)	−3.360 (2.635)
zonaReserva:year-1	−11.395 (11.003)	−2.079* (1.212)
zonaReserva:year1	−9.629 (28.420)	−2.092 (4.472)
zonaReserva:year2		
Constant	64.566*** (11.296)	11.359*** (1.413)
Observations	30	30
R^2	0.863	0.833
Residual Std. Error (df = 10)	17.000	3.244

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$