Table S2. Parameter ranges and values

Parameter	Description	Standard value used	Unit	Source/Reference	Method	Modified value for simulations
g	squid population growth rate	1.4	$tons/year$	(26)	mean value from publication	0–3.2 in optimization and *figure 3 A,B* main text
K	carrying capacity	1208770	$tons$	(25)	estimated from maximum catches	K $\pm$ 30% in optimization
σ	cost per unit effort all fleet	107291548	MXN/maximum fleet effort *	Gas prices (24), boat trips per season (6), fuel consumption per trip (27)	-	50907027–212300758 in *figure 3 A,B* main text
q	catchability	q_c = 0.1	-	assumed	-	constant q_c changes to variable q_t in EDM, SEM
$gamma$	maximum demand	49200	$tons$	UN ComTrade	fitting	2000–51000, simulation *figure 3 E* main text
$beta$	slope of export price function	0.0736	MXN/$tons$ *	UN ComTrade	fitting	-
κ	cost of processing and transport	1776.25	MXN/ton	(6)	-	1000–2148 in *figure 3 A,B* main text (estimated from minimum export price, UN ComTrade)
a_0	SST anomaly y-intersect	-40.9079	°C	figure S4	fitting	-
a_1	SST anomaly trend	0.020464	°C	figure S4	fitting	0.0195–0.021 in *figure 3 C,D* main text
a_2	SST anomaly variability	0.165387	°C	figure S4	fitting	-
a_3	SST anomaly variability	-0.287384	°C	figure S4	fitting	-
a_4	SST anomaly variability	1	°C	figure S4	fitting	0.5-1.5 in *figure 3 C,D* main text
T_{max}	scaling catchability	0.5262	°C	-	calculated from SST anomalies simulations 1990-2015	-
T_{min}	scaling catchability	-0.4311	°C	-	calculated from SST anomalies simulations 1990-2015	-
l	catchability intersect	-0.0318	-	Mantle length dataset	-	calculated using mantle length input
k	catchability slope	0.0018	-	Mantle length dataset	-	calculated using mantle length input
α	proportion of migrated squid	3.9e-15	-	-	calculated against reference T_{max}	-
δ	scaling trader cooperation	1	-	-	assumed	-

*all prices used are in MXN inflation adjusted to 2017