Appendix 1:
Parameter estimates used in the model, with brief explanations, estimates, and citations.

Parameter Name	Attribute of System	Estimate	Units	Citation
Algae	Percentage of seafloor covered by algae when algae are in season (during 1/3 of year).	0.06	Dimensionless	Torre-Cosio 2002; Basurto 2008 cited in Bueno and Basurto 2009; 143
Fecundity Rate	This variable represents the number of individuals (baby mollusks) produced by a female mollusk over her lifetime.	20	Dimensionless	Bueno & Basurto 2009 144
Average organism per person per day	Number of organisms caught per fisher per day.	0.54	Thousand mollusks/person/day	Bueno & Basurto 2009; 144
Average Seri Boats	Average number of Seri boats at start of model run, changed at year 5 for scenario testing.	15	boats/year	Basurto 2010 personal communication
Average number of organisms caught per boat per day	Average number of organisms caught per boat per day.	2.16	Thousand mollusks/boat/day	Bueno & Basurto 2009
Carrying Capacity At	Carrying Capacity for A. tuburculosa; is 1/3 of the 24,500 carrying capacity for CDH from the Bueno and Basurto model.	8,167	Thousand mollusks	Bueno and Basurto 2009; 144
Carrying capacity Pr	Carrying Capacity for A. tuburculosa; is 2/3 of the 24,500 carrying capacity for CDH from the Bueno and Basurto model.	16,333	Thousand mollusks	Bueno and Basurto 2009; 144
default fisher delay	Delay in fishers' response to changes to relative abundance.	1/12 (=1 month)	year	Basurto unpublished data.
eelgrass	Percentage of seafloor covered by eelgrass when eelgrass is in season (during 2/3 of the year).	0.22	Dimensionless	Torre-Cosio 2002; Basurto 2008 cited in Bueno and Basurto 2009
Female percent	Percent of population that is female.	0.5	Dimensionless	

Mean FL	Mean fishing luck; drives pink noise probability distribution function for fishing luck.	1	Dimensionless	
Standard Deviation FL	Standard Deviation for fishing luck; drives pink noise probability distribution function for fishing luck.	0.5	Dimensionless	Basurto unpublished data
Correlation Time FL	Correlation time of pink noise probability distribution function for fishing luck.	0.25 (3 months)	Year	
Initial proportion PR	Percentage of CDH population composed of PR.	2/3	Dimensionless	Basurto unpublished data
Initial immature AT population	Initial immature AT population (initial ratio of immature to mature is 1:9).	789	Thousand mollusks	Basurto unpublished data
Initial immature PR population	Initial immature PR population.	1,579	Thousand mollusks	Basurto unpublished data
Initial mature At population	Initial mature AT population.	7,105	Thousand mollusks	Basurto unpublished data
Initial mature Pr population	Initial mature PR population.	14,209	Thousand mollusks	Basurto unpublished data
Initial AT harvested	Starting point for the tonnage harvest of AT; needed for delay to function.	23	Tons/year	
Initial PR harvested	Starting point for the tonnage harvest of PR; needed for delay to function.	14	Tons/year	
Mean AT	Drives pink noise distribution function for mature AT lifetime; when model in deterministic mode this becomes the adult lifespan.	9	Year	
Standard Deviation AT	Drives pink noise distribution function for mature AT lifetime.	2	Year	
Correlation Time AT	Drives pink noise distribution function for mature AT lifetime.	1	Year	

Mean PR	Drives pink noise distribution function for mature Pr lifetime; when model in deterministic mode this becomes the adult lifespan.	12	year	
Standard Deviation PR	Drives pink noise distribution function for mature Pr lifetime.	3	Year	
Correlation Time PR	Drives pink noise distribution function for mature Pr lifetime.	1	Year	
Number of immature AT per kg	Used to convert immature AT harvest numbers, measured in thousand mollusks/year, into metric tons/year.	60	Thousand mollusks/ton. (=Mollusks/kg)	Basurto 2006 193 & unpublished data
Number of immature PR per kg	Used to convert immature PR harvest numbers, measured in thousand mollusks/year, into metric tons/year.	40	Thousand mollusks/ton. (=Mollusks/kg)	Basurto 2006 193 & unpublished data
Number of mature AT per kg	Used to convert mature AT harvest numbers, measured in thousand mollusks/year, into metric tons/year.	30	Thousand mollusks/ton. (=Mollusks/kg)	Basurto 2006 193 & unpublished data
Number of mature PR per kg	Used to convert mature PR harvest numbers, measured in thousand mollusks/year, into metric tons/year.	20	Thousand mollusks/ton. (=Mollusks/kg)	Basurto 2006 193 & unpublished data
Number of people/boat	Crew of one boat, usually contains only one diver plus three other crewmembers.	4	people/boat	Bueno & Basurto 2009
Rule 1 days fished	Percentage of year fished.	0.5	Year	Bueno & Basurto 2009
Rule 4 AT immature harvest	Lack of any enforced limitation on the harvesting of immature AT.	1	Dimensionless (percentage)	Bueno & Basurto 2009
Rule 4 PR immature harvest	No allowed take of immature PR when active.	0 when rule 4 active; 1 otherwise	Dimensionless (percentage)	Basurto unpublished data.

OFT function in terms of PR	Type III functional response curve for distributing fishing effort for PR and AT based on perceived proportion of PR in the underwater CDH. Effort for AT is 1 minus the output of this function.	[(0,0)-(1,1)],(0,0.05),(0.05,0.05),(0.3,0.05),(0.4,0.05),(0.5,0.12),(0.53,0.3),(0.57,0.58),(0.6,0.7),(0.66,0.8),(0.75,0.85),(1,0.85)	Dimensionless (percentage)	
Survival rate function	A smoothed Beverton-Holt equation function of the survival rate of newly born CDH based on the total CDH population / carrying capacity.	[(0,0)-(1.5,0.6)],(0,0.5),(0.1,0.49),(0.2,0.48),(0.4,0.46),(0.6,0.42),(0.8,0.34),(0.9,0.25),(0.95,0.15),(1,0),(1.5,0),(2,0)	Dimensionless	Bueno and Basurto 2009, modified
time to mature AT	length of time for AT to reach reproductive age.	1	year	Bueno and Basurto 2009; Basurto 2008
time to mature PR	length of time for PR to reach reproductive age.	2	year	
Noise Seed	Noise seeds for the 10 repetitions in each experiment scenario; ensures randomness.	1,11,21,31,41,51,61,71,81,91	Dimensionless	
Time Step	Time step of model.	0.02 (=1 week)	Year	