Appendix 3

Definition and value of set and derived parameters.

Table A3.1. Definition and value of set and derived parameters.

Parameter	Definition	Value(s) used
Set parameters		
T	Number of management years	10
N_i	Initial resource population size	1000
K	Resource population carrying capacity	2000
r	Resource population intrinsic growth rate	0.1, 0.2, 0.3
σ	Growth rate standard deviation	r/10
N_M	Manager target abundance	1000
N_U	User target abundance	0
N_C	Conservation target abundance	2000
B_M	Manager budget - an abstract quantity that controls the ability of the manager to set higher quotas	10000
B_U	User budget - an abstract quantity that controls the ability of the user to harvest resources	Varied between 5000 and 10000 (see Appendix 1)
I_C	Level of decision-making bias in favor of conservation objectives	Varied between 0 (no bias) and 1 (complete bias)
I_U	Level of decision-making bias in favor of user objectives	Varied between 0 (no bias) and 1 (complete bias)
c_{min}	Arbitrary quantity representing the minimum cost of harvesting a resource	10
E	Level of user compliance with harvest quota set by the manager	Varied between 0 (no compliance) and 1 (full compliance)
Derived parameters		
N	Resource population size.	See Equation 1 in main text

Q	Harvest quota set by the manager prior to lobbying	Derived from the genetic algorithm
Q'	Harvest quota set by the manager post lobbying	0, Q or H_{max} (see main text)
H_{max}	Maximum number of resources that can be harvested by the user	See Equation 4 in main text
$\Phi_{Conservation}$	Probability of successful lobbying for a harvesting ban by conservation groups	See Equation 2 in main text
Φ_{User}	Probability of successful lobbying for unregulated harvest	See Equation 3 in main text
Ψ	Probability that the user will successfully harvest one individual resource unit from the population	See Equation 5 in main text
Y	Hypothetical illegal harvest that the user compares to Q' in order to decide on final harvest	$B(H_{max}, \Psi)$
H	Final user harvest	$\max(Y, Q')$