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## Supplementary material

Table S1: Data on catch and length compositions provided to experts.

Species	Short catch time-series		Full catch time-series	
	Data-set a	Data-set b	Data-set c	Data-set d
Aurora rockfish	Catch:1983-2010	Catch:1983-2010	Catch:1916-2010	Catch:1916-2010
	Length comp:2010	Length comp:2010 and 1994	Length comp:2010	Length comp:2010 and 1978
Bocaccio	Catch:1975-2010	Catch:1975-2010	Catch:1892-2010	Catch:1892-2010
	Length comp:2010	Length comp:2010 and 1994	Length comp:2010	Length comp:2010 and 1978
Cabezon	Catch:1981-2009	Catch:1981-2009	Catch:1916-2009	Catch:1916-2009
	Length comp:2008	Length comp:2008 and 1994	Length comp:2008	Length comp:2008 and 1980
Canary rockfish	Catch:1983-2010	Catch:1983-2010	Catch:1916-2010	Catch:1916-2010
	Length comp:2010	Length comp:2010 and 1991	Length comp:2010	Length comp:2010 and 1973
Darkblotched rockfish	Catch:1983-2010	Catch:1983-2010	Catch:1916-2010	Catch:1916-2010
	Length comp:2010	Length comp:2010 and 1994	Length comp:2010	Length comp:2010 and 1979
Dover sole	Catch:1980-2010	Catch:1980-2010	Catch:1911-2010	Catch:1911-2010
	Length comp:2009	Length comp:2009 and 1993	Length comp:2009	Length comp:2009 and 1978
Petrale sole	Catch:1971-2010	Catch:1971-2010	Catch:1876-2010	Catch:1876-2010

	Length comp:2010	Length comp:2010 and 1987	Length comp:2010	Length comp:2010 and 1964
Shortspine thornyhead	Catch:1978-2010	Catch:1978-2010	Catch:1901-2010	Catch:1901-2010
	Length comp:2010	Length comp:2010 and 1994	Length comp:2010	Length comp:2010 and 1979
Longspine thornyhead	Catch:1997-2010	Catch:1997-2010	Catch:1964-2010	Catch:1964-2010
	Length comp:2010	Length comp:2010 and 1994	Length comp:2010	Length comp:2010 and 1978
Widow rockfish	Catch:1983-2010	Catch:1983-2010	Catch:1916-2010	Catch:1916-2010
	Length comp:2010	Length comp:2010 and 1994	Length comp:2010	Length comp:2010 and 1980
Arrowtooth flounder	Catch:2001-2010	Catch:2001-2010	Catch:1974-2010	Catch:1974-2010
	Length comp:2010	Length comp:2010 and 1994	Length comp:2010	Length comp:2010 and 1978
Greenland halibut	Catch:1996-2010	Catch:1996-2010	Catch:1960-2010	Catch:1960-2010
	Length comp:2010	Length comp:2010 and 1994	Length comp:2010	Length comp:2010 and 1979
Alaska plaice	Catch:2000-2010	Catch:2000-2010	Catch:1975-2010	Catch:1975-2010
	Length comp:2010	Length comp:2010 and 1994	Length comp:2010	Length comp:2010 and 1978
Atka mackerel	Catch:2001-2010	Catch:2001-2010	Catch:1977-2010	Catch:1977-2010
	Length comp:2010	Length comp:2010 and 2000	Length comp:2010	Length comp:2010 and 1989
Pacific Ocean Perch	Catch:1996-2010	Catch:1996-2010	Catch:1961-2010	Catch:1961-2010

	Length comp:2010	Length comp:2010 and 1998	Length comp:2010	Length comp:2010 and 1987
Sablefish	Catch:1996-2010	Catch:1996-2010	Catch:1960-2010	Catch:1960-2010
	Length comp:2010	Length comp:2010 and 2000	Length comp:2010	Length comp:2010 and 1990
Yellowfin sole	Catch:1994-2010	Catch:1994-2010	Catch:1954-2010	Catch:1954-2010
	Length comp:2010	Length comp:2010 and 1998	Length comp:2010	Length comp:2010 and 1987
Northern rockfish	Catch:1996-2010	Catch:1996-2010	Catch:1961-2010	Catch:1961-2010
	Length comp:2010	Length comp:2010 and 2000	Length comp:2010	Length comp:2010 and 1990
Simulated stocks	Catch: 15 yrs	Catch: 15 yrs	Catch: 50 yrs	Catch: 50 yrs
	Length comp:year 50	Length comp: year 40 and 50	Length comp:year 50	Length comp: year 30 and 50

Table S1: Coefficients for each level of main effects and their interactions from the final models for median RE and RE interquartile range.

ME ~ Stock status*Level				
	Estimate	Std. Error	t value	Pr (> t )
(Intercept)	0.57983	0.08178	7.09	4.96E-12***
Status1	-0.69211	0.09273	-7.464	4.13E-13***
Status2	-1.04709	0.09443	-11.089	2.00E-16***
Status3	-1.28323	0.09676	-13.262	2.00E-16***
Level2	0.1258	0.11565	1.088	0.2772
Level3	0.17765	0.11565	1.536	0.1252
Status1:Level2	-0.27658	0.13113	-2.109	0.0355*
Status2:Level2	-0.25638	0.13354	-1.92	0.0555
Status3:Level2	-0.07484	0.13684	-0.547	0.5847
Status1:Level3	-0.03724	0.13113	-0.284	0.7765
Status2:Level3	-0.28404	0.13354	-2.127	0.0339*
Status3:Level3	-0.31817	0.13684	-2.325	0.0205*
IQR ~ Status*Level				
	Estimate	Std. Error	t value	Pr (> t )
(Intercept)	0.54798	0.1033	5.305	1.75E-07***

Status1	-0.98125	0.11713	-8.377	6.37E-16***
Status2	-1.52955	0.11928	-12.823	< 2e-16***
Status3	-1.79267	0.12223	-14.666	< 2e-16***
Level2	-0.26255	0.14609	-1.797	0.073
Level3	-0.23279	0.14609	-1.593	0.1117
Status1:Level2	-0.10983	0.16565	-0.663	0.5076
Status2:Level2	0.03375	0.16869	0.2	0.8415
Status3:Level2	-0.09157	0.17286	-0.53	0.5966
Status1:Level3	-0.36437	0.16565	-2.2	0.0283*
Status2:Level3	-0.37805	0.16869	-2.241	0.0255*