## Text for Supplementary Materials and Table S1

## Temporal Trends in Abundance: Alternative Model Fits

In addition to the continuous piece-wise model described in the main body of the paper to compare regression slopes before and after 1992, we fit two other models to evaluate the robustness of our results. The first was a less biologically realistic, discontinuous piece-wise model with no continuity constraint

$$ln\left(SSB_{t}\right) = \alpha + \delta_{\alpha}\eta_{t} + (\beta + \delta_{\beta}\eta_{t})t + \epsilon_{t} \tag{1}$$

where  $\delta_{\alpha}$  is the change in intercept post-1992. The equations used for the continuous and discontinuous piece-wise models assume independence and that variability around the mean arises from measurement error. Thus, for comparison, we also fit a random-walk state-space model (Durbin and Koopman 2001) with pre- and post-1992 drift terms via a Kalman filter with measurement and process error estimation attempted:

$$ln\left(SSB_{obs,t}\right) = ln\left(SSB_{true,t}\right) + \nu_t \tag{2}$$

$$ln\left(SSB_{true,t+1}\right) = ln\left(SSB_{true,t}\right) + \beta + \delta_{\beta}\eta_{t} + \zeta_{t} \tag{3}$$

where  $SSB_{obs,t}$  the assessment-derived spawning stock biomass in year t,  $SSB_{true,t+1}$  is the estimate of the true state of the spawning stock biomass, and  $\nu_t$  and  $\zeta_t$  are the normally distributed measurement and process errors, respectively. The equations for all three models use the same parameter symbols for continuity but each will have a model-specific interpretation. The random-walk state-space model consistently yielded estimates of low to absent measurement error variability. This had the effect of reducing the model to a process-variance model where the model fit often, but not always, conformed closely with the observed data. The near absence of measurement error variability can be attributed to either the low-frequency nature of the time series, which presumably resulted from the assessments being aggregated across multiple ages and cohorts, thus producing a relatively smooth biomass series where the error variances are difficult to separate, or the relative simplicity of the implemented state space model (Equation 3).

								Cont	inuous	Discor	ntinuous	D	rift
Stock ID	Area	Common name	Scientific name	Category	type	ratio 1992	ratio current	pre-1992	post-1992	pre-1992	post-1992	pre-1992	post-1992
ACADREDGOMGB	Gulf of Maine / Georges Bank	Acadian red- fish	Sebastes fas- ciatus	Demersal		0.3700	8.6600	-0.0582	0.1702	-0.0556	0.2303	-0.0535	0.2109
ALBANATL	Northern At- lantic	Albacore tuna	Thunnus alalunga	Pelagic		0.9300	0.8100	-0.0177	-0.0097	-0.0185	-0.0244	-0.0156	-0.0144
ALBASPAC	South Pacific Ocean	Albacore tuna	Thunnus alalunga	Pelagic		4.0100	2.4600	-0.0307	-0.0007	-0.0373	-0.0295	-0.0337	-0.0349
ALPLAICBSAI	Bering Sea and Aleutian Islands	Alaska plaice	Pleuronectes quadritubercu- latus	Demersal		2.7100	2.4600	0.0233	-0.0322	0.0458	-0.0123	0.0324	-0.0060
AMPL23K	Labrador - NE Newfoundland	American plaice	Hippoglossoides platessoides	Demersal				-0.1657	-0.1548	-0.0588	-0.0479	-0.1073	-0.1470
AMPL3LNO	Grand Banks	American plaice	Hippoglossoides platessoides	Demersal	*	0.1400	0.0800	-0.0587	-0.0688	-0.0222	0.0640	-0.0524	0.0187
AMPL5YZ	Gulf of Maine / Georges Bank	American plaice	Hippoglossoides platessoides	Demersal		0.5200	0.7000	-0.0993	0.0283	-0.1398	0.0087	-0.0809	0.0202
ARFLOUNDBSAI	Bering Sea and Aleutian Islands	Arrowtooth flounder	Reinhardtius stomias	Demersal		1.3100	2.7000	0.0628	0.0463	0.0524	0.0381	0.0592	0.0451
ARFLOUNDGA	Gulf of Alaska	Arrowtooth flounder	Reinhardtius stomias	Demersal		1.9300	3.0200	0.0521	0.0257	0.0508	0.0225	0.0467	0.0249
ARFLOUNDPCOAST	Pacific Coast	Arrowtooth flounder	Reinhardtius stomias	Demersal		3.1100	3.8100	-0.0090	0.0129	-0.0095	0.0027	-0.0059	0.0136
ATBTUNAEATL	Eastern Atlantic	Atlantic bluefin tuna	Thunnus thyn- nus	Pelagic		0.6200	0.3400	-0.0135	-0.0403	-0.0221	-0.0550	-0.0173	-0.0621
ATBTUNAWATL	Western Atlantic	Atlantic bluefin tuna	Thunnus thyn- nus	Pelagic		0.4300	0.5700	-0.0961	0.0318	-0.1085	0.0106	-0.0918	0.0193
ATKABSAI	Bering Sea and Aleutian Islands	Atka mackerel	Pleurogrammus monopterygius	Demersal		2.2300	1.5500	0.0272	0.0026	0.0189	-0.0025	0.0648	-0.0215
ATLCROAKMATLC	Mid-Atlantic Coast	Atlantic croaker	$Micropogonias \ undulatus$	Demersal		1.3000	1.4200	0.0782	0.0306	0.0677	0.0034	0.0952	0.0092
AUSSALMONNZ	New Zealand	Australian salmon	Arripis trutta	Pelagic		1.8400	1.6400	-0.0475	-0.0007	-0.0541	-0.0082	-0.0440	-0.0080
BGROCKPCOAST	Pacific Coast	Blackgill rock- fish	$Sebastes \\ melanostomus$	Demersal		1.4300	1.3100	-0.0124	-0.0287	-0.0093	-0.0034	-0.0136	-0.0070
BIGEYEATL	Atlantic	Bigeye tuna	Thunnus obe- sus	Pelagic	*	1.4100	0.9000	-0.0150	-0.0576	0.0018	-0.0358	-0.0049	-0.0274
BIGEYEEPAC	Eastern Pacific	Bigeye tuna	Thunnus obe- sus	Pelagic		1.7400	0.9000	-0.0086	-0.0494	-0.0010	-0.0419	-0.0074	-0.0439
BIGEYEIO	Indian Ocean	Bigeye tuna	Thunnus obe- sus	Pelagic		2.2900	1.2300	-0.0062	-0.0626	-0.0049	-0.0558	-0.0114	-0.0518
BIGEYEWPO	Western Pacific Ocean	Bigeye tuna	Thunnus obe- sus	Pelagic		1.8700	1.0600	-0.0326	-0.0212	-0.0352	-0.0384	-0.0287	-0.0407
BIGHTREDSE	Southeast Australia	Bight redfish	Centroberyx $gerrardi$	Demersal		1.3400	0.9500	0.0056	-0.0170	0.0038	-0.0242	0.0047	-0.0234
BLACKOREOWECR	West end of Chatham Rise	Black oreo	Allocyttus niger	Demersal		1.2500	0.9900	-0.0588	-0.0164	-0.0581	-0.0156	-0.0513	-0.0158
BLACKROCKNPCOAST		Black rockfish	Sebastes melanops	Demersal	*	0.9800	1.3700	-0.0126	-0.0158	-0.0095	0.0586	-0.0167	0.0458

								Cont	inuous	Discor	ntinuous	D	rift
Stock ID	Area	Common name	Scientific name	Category	type	ratio 1992	ratio current	pre-1992	post-1992	pre-1992	post-1992	pre-1992	post-199
BLACKROCKSPCOAST		Black rockfish	Sebastes	Demersal		1.2100	2.2300	-0.0103	-0.0019	-0.0078	0.0528		
BLUEFISHATLC	Coast Atlantic Coast	Bluefish	melanops $Pomatomus$ $saltatrix$	Demersal	*	0.5600	0.8100	-0.1517	0.0269	-0.1415	0.0303	-0.1314	0.0212
BLUEROCKCAL	California	Blue rockfish	Sebastes mystinus	Demersal		0.3300	0.7500	-0.0250	-0.0164	-0.0204	0.0802	-0.0270	0.0544
BOCACCSPCOAST	Southern Pacific Coast	Bocaccio	Sebastes pau- cispinis	Demersal		0.1800	0.3200	-0.0270	-0.0448	-0.0143	0.0425	-0.0328	0.0421
BSBASSMATLC	Mid-Atlantic Coast	Black sea bass	Centropristis striata	Demersal		0.5600	0.9200	-0.0119	0.0354	-0.0045	0.0505	0.0051	0.0331
BUTTERGOMCHATT	Gulf of Maine / Cape Hatteras	Atlantic but- terfish	Peprilus tria- canthus	Demersal				-0.0154	-0.0430	-0.0087	-0.0149	-0.0578	-0.0034
BWHITNEA	Northeast At- lantic	Blue whiting	Micromesistius poutassou	Demersal	*	0.3400	0.6700	-0.0141	0.0858	-0.0363	0.0768	0.0073	0.0351
CABEZNCAL	Northern Cali- fornia	Cabezon	Scorpaenichthys marmoratus	Demersal		0.7700	1.0400	-0.0122	-0.0240	-0.0103	0.0283	-0.0162	0.0231
CABEZSCAL	Southern Cali- fornia	Cabezon	Scorpaenichthys marmoratus	Demersal		0.3500	0.7400	-0.0374	-0.0473	-0.0335	0.0178	-0.0340	0.0573
CAPEICE	Iceland Grounds	Capelin	Mallotus villo- sus	Pelagic	*	0.8500	0.4900	0.0341	0.0094	0.0099	-0.0089	0.0367	0.0081
CAPENOR	Barents Sea	Capelin	Mallotus villo- sus	Pelagic	*	1.0300	0.1700	0.0585	0.0301	0.0571	0.0089		
CHAKESA	South Africa	Shallow-water cape hake	Merluccius capensis	Demersal		3.0400	2.3000	-0.0068	0.0034	-0.0085	-0.0280		
CHILISPCOAST	Southern Pacific Coast	Chilipepper rockfish	$Sebastes \\ goodei$	Demersal	*	0.8900	1.4300	-0.0090	-0.0062	-0.0072	0.0624	-0.0109	0.0500
CHTRACCH	Chilean EEZ and offshore	Chilean jack mackerel	Trachurus murphyi	Pelagic	*	1.1200	0.5200	0.1135	-0.0963	0.1703	-0.0395	0.1276	-0.0674
CMACKPCOAST	Pacific Coast	Chub mackerel	$Scomber \\ japonicus$	Pelagic		1.0400	0.6800	-0.0071	-0.0568	-0.0088	-0.0786	-0.0332	-0.0265
COD3NO	Southern Grand Banks	Atlantic cod	Gadus morhua	Demersal	*	0.0500	0.0200	-0.0446	-0.1081	-0.0161	0.0024	-0.0495	-0.0386
COD3Pn4RS	Northern Gulf of St. Lawrence	Atlantic cod	Gadus morhua	Demersal	*	0.1200	0.0900	-0.1353	-0.0290	-0.0611	0.0545	-0.1010	0.0176
COD3Ps COD4TVn	St. Pierre Bank Southern Gulf of	Atlantic cod Atlantic cod	Gadus morhua Gadus morhua	Demersal Demersal	*	$0.2900 \\ 0.3100$	$0.4900 \\ 0.1700$	-0.0269 $0.0022$	0.0717 -0.0857	0.0145 $0.0392$	0.1195 -0.0286	0.0037 -0.0253	0.0853 -0.0335
	St. Lawrence					0.3100	0.1700						
COD4VsW	Eastern Scotian Shelf	Atlantic cod	Gadus morhua	Demersal				0.0050	-0.2548	0.0379	-0.1399	-0.0148	-0.1734
COD5Zjm	Georges Bank	Atlantic cod	Gadus morhua	Demersal	*	0.6100	0.3400	-0.0428	-0.0574	0.0036	-0.0032	-0.0202	-0.0521
CODBA2224	Western Baltic	Atlantic cod	Gadus morhua	Demersal	*	0.3700	0.3600	-0.0362	-0.0009	-0.0365	-0.0014	-0.0706	0.0535
CODBA2532	Eastern Baltic	Atlantic cod	Gadus morhua	Demersal	*	0.1300	0.1600	-0.0005	-0.1159	0.0221	-0.0546	-0.0362	-0.0093
CODFAPL	Faroe Plateau	Atlantic cod	Gadus morhua	Demersal	7	0.3600	0.2600	-0.0094	-0.0397	-0.0076	-0.0325	-0.0248	-0.0101
CODGB	Georges Bank	Atlantic cod	Gadus morhua	Demersal	*	0.2500	0.1200	-0.0753	-0.0776	-0.0326	-0.0490	-0.0632	-0.0503
CODGOM	Gulf of Maine	Atlantic cod	Gadus morhua	Demersal	*	0.6500	1.4600	-0.0628	0.0218	0.0095	0.0458	-0.0540	0.0693
CODICE	Iceland Grounds	Atlantic cod	Gadus morhua	Demersal	*	0.3700	0.4600	-0.0412	0.0340	-0.0432	0.0231	-0.0406	0.0144
CODIS CODKAT	Irish Sea Kattegat and Skagerrak	Atlantic cod Atlantic cod	Gadus morhua Gadus morhua	Demersal Demersal	*	$0.5200 \\ 0.2600$	$0.1500 \\ 0.1900$	-0.0249 -0.0752	-0.0905 -0.0378	-0.0114 -0.0973	-0.0595 -0.0765	-0.0231 -0.0781	-0.0737 -0.0329

								Cont	inuous	Discor	tinuous	D	rift
Stock ID	Area	Common name	Scientific name	Category	type	ratio 1992	ratio current	pre-1992	post-1992	pre-1992	post-1992	pre-1992	post-199
CODNEAR	North-East Arc- tic	Atlantic cod	Gadus morhua	Demersal	*	0.7300	0.5600	-0.0129	0.0790	-0.0244	-0.0203	-0.0060	-0.0291
CODNS	North Sea	Atlantic cod	$Gadus\ morhua$	Demersal	*	0.5100	0.1900	-0.0348	-0.0752	-0.0352	-0.0762	-0.0281	-0.0442
CODVIa	West of Scotland	Atlantic cod	$Gadus\ morhua$	Demersal	*	0.3500	0.1200	-0.0464	-0.0970	-0.0541	-0.1028	-0.0632	-0.0910
COWCODSCAL	Southern Cali- fornia	Cowcod	Sebastes levis	Demersal		0.0500	0.0900	-0.0313	-0.1297	-0.0257	0.0448	-0.0430	0.0420
CROCKPCOAST	Pacific Coast	Canary rock- fish	Sebastes pin- niger	Demersal		0.4000	0.8500	-0.0222	-0.0076	-0.0187	0.0663	-0.0251	0.0506
CTRACSA	South Africa South coast	Cape horse mackerel	Trachurus capensis	Pelagic	*	1.3000	1.4700	-0.0003	0.0127	-0.0016	0.0047	-0.0127	0.0091
DEEPCHAKESA	South Africa	Deep-water cape hake	Merluccius paradoxus	Demersal		0.8100	0.8300	-0.0369	0.0222	-0.0388	-0.0135	-0.0263	0.0013
DEEPFLATHEADSE	Southeast Aus- tralia	Deepwater flathead	Platycephalus conatus	Demersal		2.0700	1.5100	-0.0261	-0.0344	-0.0194	-0.0299	-0.0201	-0.0212
DKROCKPCOAST	Pacific Coast	Darkblotched rockfish	Sebastes crameri	Demersal		0.7100	0.7300	-0.0222	-0.0815	-0.0171	-0.0062	-0.0243	0.0021
DSOLEPCOAST	Pacific Coast	Dover sole	Microstomus pacificus	Demersal		1.0600	1.6100	-0.0112	0.0074	-0.0103	0.0357	-0.0108	0.0320
DUSROCKGA	Gulf of Alaska	Dusky rockfish	Sebastes vari- abilis	Demersal		0.8900	1.5400	0.0484	0.0400	0.0461	0.0383	0.0429	0.0364
ESOLEPCOAST	Pacific Coast	English sole	Parophrys ve- tulus	Demersal		1.2400	6.4200	-0.0139	0.1017	-0.0132	0.1333	-0.0130	0.1095
FLSOLEBSAI	Bering Sea and Aleutian Islands	Flathead sole	Hippoglossoides elassodon	Demersal		1.8300	1.8300	0.2020	-0.0112	0.2068	-0.0079	0.1779	-0.0000
GAGGM	Gulf of Mexico	Gag	Mycteroperca microlepis	Demersal		0.4400	1.0000	-0.0481	0.0883	-0.0494	0.0825	-0.0518	0.0687
GAGSATLC	Southern At- lantic coast	Gag	Mycteroperca microlepis	Demersal		0.6000	0.9400	-0.0429	0.0347	-0.0455	0.0239	-0.0382	0.0349
GEMFISHNZ	New Zealand	common gem- fish	$Rexea\ solandri$	Demersal		4.7800	1.6400	-0.0108	-0.0830	-0.0124	-0.0936	-0.0072	-0.0766
GEMFISHSE	Southeast Aus- tralia	common gem- fish	$Rexea\ solandri$	Demersal		0.3800	0.2500	-0.0721	-0.0929	-0.0529	-0.0471	-0.0678	-0.0288
GHAL23KLMNO	Labrador Shelf - Grand Banks	Greenland hal- ibut	Reinhardtius hippoglos- soides	Demersal	*	0.9900	0.3900	0.0512	-0.1551	0.0582	-0.1472	0.0707	-0.1674
GHALBSAI	Bering Sea and Aleutian Islands	Greenland halibut	Reinhardtius hippoglos- soides	Demersal		5.1800	1.4800	0.0177	-0.1247	0.0319	-0.0835	0.0142	-0.0739
GHALNEAR	North-East Arc- tic	Greenland halibut	Reinhardtius hippoglos- soides	Demersal	*	0.1400	0.3600	-0.0681	0.0467	-0.0558	0.0854	-0.0537	0.0564
GOPHERSPCOAST	Southern Pacific Coast	Gopher rock- fish	Sebastes car- natus	Demersal		1.8700	2.3800	-0.0110	0.0669	-0.0194	0.0388	-0.0084	0.0186
GRAMBERSATLC	Southern At- lantic coast	Greater am- berjack	Seriola dumer- ili	Demersal		1.2400	1.1000	-0.0193	-0.0275	-0.0153	0.0067	-0.0214	-0.0086
GTRIGGM	Gulf of Mexico	Gray trigger- fish	Balistes capriscus	Demersal		2.1300	1.1200	0.0033	-0.0501	0.0184	-0.0411	0.0141	-0.0540

								Cont	inuous	Discor	ntinuous	D	rift
Stock ID	Area	Common name	Scientific name	Category	type	ratio 1992	ratio current	pre-1992	post-1992	pre-1992	post-1992	pre-1992	post-1992
HAD4X5Y	Western Scotian Shelf, Bay of Fundy and Gulf of Maine	Haddock	Melanogrammus aeglefinus	Demersal	*	0.4100	0.8500	-0.0294	0.0524	-0.0223	0.0733	-0.0164	0.0684
HAD5Y	Gulf of Maine	Haddock	Melanogrammus aeglefinus	Demersal		0.1500	0.9900	-0.2069	0.1973	-0.2653	0.1522	-0.1924	0.1251
HAD5Zejm	Georges Bank	Haddock	Melanogrammus aeglefinus	Demersal	*	0.2500	1.0000	-0.0168	0.1031	0.0029	0.1670	-0.0293	0.1599
HADFAPL	Faroe Plateau	Haddock	Melanogrammus aeglefinus	Demersal	*	0.3100	0.8500	-0.0054	0.0431	0.0068	0.1035	-0.0184	0.0685
HADGB	Georges Bank	Haddock	Melanogrammus aeglefinus	Demersal		0.1000	1.9900	-0.0275	0.1379	-0.0234	0.1929	-0.0286	0.1966
HADICE	Iceland Grounds	Haddock	Melanogrammus aeglefinus	Demersal	*	0.3500	0.9800	-0.0540	0.0587	-0.0387	0.0674	-0.0467	0.0589
HADNEAR	North-East Arc- tic	Haddock	Melanogrammus aeglefinus	Demersal	*	0.6100	1.1000	-0.0078	0.0717	-0.0135	0.0311	0.0061	0.0421
HADNS-IIIa	IIIa and North Sea	Haddock	Melanogrammus aeglefinus	Demersal	*	0.8000	0.6200	-0.0453	0.0537	-0.0461	0.0513	-0.0510	0.0368
HADVIa	West of Scotland	Haddock	Melanogrammus aeglefinus	Demersal	*	0.8200	0.5800	-0.0433	0.0253	-0.0453	0.0239	-0.0452	0.0262
HAKENRTN	IIIa-IV-VI-VII- VIIIabd	Hake	Merluccius merluccius	Demersal	*	0.7100	1.0400	-0.0860	0.0113	-0.0589	0.0268	-0.0679	0.0292
HAKESOTH	VIIIabd VIIIc-IXa	Hake	Merluccius merluccius	Demersal				-0.1155	-0.0256	-0.1067	-0.0227	-0.0949	-0.0250
HERR2532	Eastern Baltic	Herring	Clupea haren- qus	Pelagic	*	0.6900	0.6900	-0.0499	-0.0275	-0.0393	-0.0140	-0.0372	0.0032
HERR30	Bothnian Sea	Herring	Clupea haren- qus	Pelagic	*	1.4700	1.1900	0.0589	0.0028	0.0469	-0.0144	0.0540	-0.0142
HERR31	Bothnian Bay	Herring	Clupea haren-	Pelagic	*	0.6500	0.2900	-0.0497	-0.0629	-0.0010	-0.0362	-0.0097	-0.0615
HERR4RFA	NAFO 4R	Herring	gus Clupea haren-	Pelagic				0.0080	-0.0273	0.0064	-0.0308	-0.0107	-0.0263
HERR4RSP	NAFO 4R	Herring	gus Clupea haren-	Pelagic				-0.0036	-0.0566	0.0153	0.0162	0.0039	-0.0101
HERR4VWX	Scotian Shelf and Bay of Fundy	Herring	gus Clupea haren- gus	Pelagic				-0.0095	-0.1375	0.0045	-0.0965	-0.0139	-0.1290
HERRCC HERRNIRS	Central Coast Irish Sea	Pacific herring Herring	Clupea pallasii Clupea haren-	Pelagic Pelagic	*	$\begin{array}{c} 1.2500 \\ 0.2400 \end{array}$	$0.3000 \\ 0.7200$	$0.0220 \\ 0.0102$	-0.0456 -0.0734	$0.0197 \\ 0.0229$	-0.0598 -0.0242	$0.0125 \\ 0.0292$	-0.0590 $0.0252$
HERRNS	North Sea	Herring	gus Clupea haren-	Pelagic	*	0.6900	0.6500	-0.0182	0.1215	-0.0234	0.0999	-0.0275	0.0384
HERRNWATLC	Northwestern	Herring	gus Clupea haren-	Pelagic				-0.0274	0.1555	-0.0683	0.0386	-0.0282	0.0387
HERRPRD	Atlantic Coast Prince Rupert	Pacific herring	gus Clupea pallasii	Pelagic	*	0.3900	0.1600	0.0037	-0.0118	0.0025	-0.0195	0.0077	-0.0349
HERRPWS	District Prince William Sound	Pacific herring	Clupea pallasii	Pelagic				-0.0234	-0.1256	0.0597	-0.0799	0.0410	-0.1524

								Cont	inuous	Discor	ntinuous	D	rift
Stock ID	Area	Common name	Scientific name	Category	type	ratio 1992	ratio current	pre-1992	post-1992	pre-1992	post-1992	pre-1992	post-199
HERRQCI	Queen Charlotte Islands	Pacific herring	Clupea pallasii	Pelagic	*	0.3600	0.2000	0.0358	-0.1062	0.0457	-0.0468	0.0183	-0.0361
HERRRIGA	Gulf of Riga East of Gotland	Herring	Clupea haren- gus	Pelagic	*	1.3700	1.2100	0.0587	-0.0060	0.0390	-0.0212	0.0536	-0.0108
HERRSITKA HERRSOG	Sitka Straight of Geor- gia	Pacific herring Pacific herring	Clupea pallasii Clupea pallasii	Pelagic Pelagic	*	1.1700	0.9100	$0.0401 \\ 0.0258$	$0.0495 \\ 0.0165$	$0.0672 \\ 0.0230$	0.0677 -0.0008	$0.0712 \\ 0.0162$	0.0273 $-0.0154$
HERRVIa	West of Scotland	Herring	Clupea haren- gus	Pelagic	*	0.3700	0.1800	-0.0376	0.0009	-0.0377	0.0003	-0.0222	-0.0251
HERRWCVANI	West Coast of Vancouver Island	Pacific herring	Clupea pallasii	Pelagic	*	0.6900	0.0300	0.0266	-0.1686	0.0287	-0.1562	0.0140	-0.1783
HOKIENZ	Eastern New Zealand	Hoki	Macruronus novaeze- landiae	Demersal	*	1.6400	1.1100	-0.0009	-0.0689	-0.0003	-0.0680	-0.0002	-0.0529
HOKIWNZ	Western New Zealand	Hoki	Macruronus novaeze- landiae	Demersal	*	1.0600	0.5100	-0.0089	-0.1100	-0.0102	-0.1117	-0.0310	-0.0812
KELPGREENLINGORE	EC <b>OAS</b> En Coast	Kelp greenling	Hexagrammos decagrammus	Demersal		2.9400	1.2800	0.0279	-0.0500	0.0132	-0.0609	0.0256	-0.0643
KINGKLIPSA	South Africa	Anchovy	Engraulis en- crasicolus	Pelagic		1.1000	1.2000	-0.0120	-0.0060	-0.0113	0.0019	-0.0124	0.0057
LINGCODNPCOAST	Northern Pacific Coast	Lingcod	Ophiodon elongatus	Demersal				-0.0587	0.0605	-0.0425	0.1575	-0.0589	0.1395
LINGCODSPCOAST	Southern Pacific Coast	Lingcod	$Ophiodon \\ elongatus$	Demersal				-0.0624	-0.0156	-0.0511	0.0525	-0.0591	0.0404
LNOSESKAPCOAST LSTHORNHPCOAST	Pacific Coast Pacific Coast	Longnose skate Longspine thornyhead	Raja rhina Sebastolobus altivelis	Demersal Demersal	*	1.6400 3.3200	$1.5600 \\ 2.6500$	-0.0044 -0.0040	-0.0083 -0.0251	-0.0045 -0.0019	-0.0100 -0.0174	-0.0043 -0.0041	-0.0059 -0.0174
MACKGOMCHATT	Gulf of Maine / Cape Hatteras	Mackerel	Scomber scom- brus	Pelagic		1.9700	3.6100	0.0276	0.0380	0.0336	0.0668	0.0495	0.0504
MACKNEICES	IIa-IIIabd-IV- Vb-VI-VII- VIIIabcde-XII- XIV-Ixa	Mackerel	Scomber scom- brus	Pelagic	*	1.1600	0.9800	-0.0217	-0.0049	-0.0286	-0.0158	-0.0241	-0.0088
MENATGM	Gulf of Mexico	Gulf menhaden	Brevoortia pa- tronus	Pelagic	*	1.2600	1.0800	0.0445	0.0224	0.0430	0.0160	0.0449	-0.0081
MORWONGSE	Southeast Australia	Hawaiian mor- wong	Nemadactylus macropterus	Demersal		0.6700	0.3100	-0.0102	-0.1173	-0.0078	-0.0644	-0.0146	-0.0503
MUTSNAPSATLCGM	Southern At- lantic coast and Gulf of Mexico	Mutton snap- per	$Lutjanus \\ analis$	Demersal		0.5200	1.1300	-0.0669	0.0568	-0.0523	0.0635	-0.0462	0.0555
NROCKBSAI	Bering Sea and Aleutian Islands	Northern rock- fish	Sebastes polyspinis	Demersal		1.1400	1.4100	0.0386	0.0131	0.0388	0.0132	0.0375	0.0127
NROCKGA	Gulf of Alaska	Northern rock- fish	Sebastes polyspinis	Demersal		2.1900	1.5000	-0.0124	0.0107	-0.0232	-0.0220	-0.0197	-0.0239
NRSOLEEBSAI	Eastern Bering Sea and Aleutian Islands	Northern rock sole	$Lepidopsetta \ polyxystra$	Demersal		1.7400	3.0200	0.1331	0.0546	0.1081	0.0296	0.1151	0.0365

								Cont	inuous	Discor	ntinuous	D	rift
Stock ID	Area	Common name	Scientific name	Category	type	ratio 1992	ratio current	pre-1992	post-1992	pre-1992	post-1992	pre-1992	post-199
NZLINGESE	Southeast Australia	New Zealand ling	Genypterus blacodes	Demersal		1.4000	0.5900	-0.0165	-0.0526	-0.0150	-0.0494	-0.0173	-0.0576
NZLINGLIN3-4	New Zealand Ar- eas LIN 3 and 4	New Zealand ling	Genypterus blacodes	Demersal		4.1400	3.0700	-0.0020	-0.0338	0.0074	-0.0207	-0.0082	-0.0200
NZLINGLIN5-6	New Zealand Ar- eas LIN 5 and 6	New Zealand ling	Genypterus blacodes	Demersal		5.1300	3.9600	-0.0044	-0.0190	-0.0014	-0.0149	-0.0021	-0.0173
NZLINGLIN6b	New Zealand Ar- eas LIN 6b	New Zealand ling	Genypterus blacodes	Demersal		3.7800	2.1900	-0.0050	-0.0358	0.0014	-0.0324	-0.0074	-0.0390
NZLINGLIN72	New Zealand Ar- eas LIN 72	New Zealand ling	Genypterus blacodes	Demersal		3.0500	2.4900	-0.0231	-0.0113	-0.0156	-0.0008	-0.0220	-0.0136
NZLINGLIN7WC	New Zealand Areas LIN 7WC- WCSI	New Zealand ling	Genypterus blacodes	Demersal		2.0600	2.2100	-0.0184	-0.0104	-0.0120	-0.0024	-0.0180	0.0045
NZLINGWSE	Western half of Southeast Australia	New Zealand ling	$Genypterus \ blacodes$	Demersal		1.6600	1.0800	-0.0041	-0.0172	-0.0043	-0.0176	-0.0100	-0.0283
NZSNAPNZ8	New Zealand Area 8 (Auck- land and Central West)	New Zealand snapper	Chrysophrys auratus	Demersal		0.5100	0.3500	-0.0454	-0.0335	-0.0443	-0.0154	-0.0368	-0.0285
OROUGHYNZMEC	New Zealand Mid East Coast	Orange roughy	Hoplostethus atlanticus	Demersal		1.3400	1.2000	-0.1496	-0.0199	-0.1119	0.0029	-0.1274	-0.0088
OROUGHYSE	Southeast Aus- tralia	Orange roughy	Hoplostethus atlanticus	Demersal		2.3300	0.5200	-0.1073	-0.1450	-0.0096	-0.0797	-0.0587	-0.1002
PCODBSAI	Bering Sea and Aleutian Islands	Pacific cod	Gadus macro- cephalus	Demersal		1.3200	1.0000	0.0338	-0.0298	0.0767	-0.0003	0.0422	-0.0174
PCODGA	Gulf of Alaska	Pacific cod	Gadus macro- cephalus	Demersal		1.2500	0.9100	0.0684	-0.0399	0.0960	-0.0209	0.0622	-0.0198
PERCHEBSAI	Eastern Bering Sea and Aleutian Islands	Pacific ocean perch	Sebastes alu- tus	Demersal		0.7400	1.2300	0.1033	0.0404	0.0822	0.0275	0.0816	0.0304
PHAKEPCOAST	Pacific Coast	Pacific hake	Merluccius productus	Demersal		4.3800	1.6100	-0.0018	-0.0904	0.0249	-0.0336	0.0020	-0.0624
PLAIC7d	Eastern English Channel	European Plaice	Pleuronectes platessa	Demersal				0.0415	-0.0674	0.0809	-0.0457	0.0276	-0.0376
PLAICCELT	Celtic Sea	European Plaice	Pleuronectes platessa	Demersal	*	0.9800	0.6500	0.0517	-0.0960	0.0843	-0.0674	0.0660	-0.0592
PLAICECHW	Western English Channel	European Plaice	Pleuronectes platessa	Demersal	*	0.7200	0.5100	0.0403	-0.0536	0.0785	-0.0153	0.0505	-0.0392
PLAICIIIa	Kattegat and Skagerrak	European Plaice	Pleuronectes platessa	Demersal				-0.0115	-0.0443	-0.0265	-0.0557	-0.0137	-0.0320
PLAICIS	Irish Sea	European Plaice	Pleuronectes platessa	Demersal	*	0.5700	1.0700	-0.0266	0.0331	-0.0198	0.0545	-0.0256	0.0482
PLAICNS	North Sea	European Plaice	Pleuronectes platessa	Demersal				-0.0033	-0.0366	0.0021	-0.0096	-0.0009	-0.0250
POLL4VWX5Zc	Scotian Shelf, Bay of Fundy and Georges Bank	Pollock	Pollachius virens	Demersal	*	0.6200	0.5600	-0.1202	-0.0183	-0.0543	0.0064	-0.0561	0.0004

								Cont	inuous	Discor	tinuous	D	rift
Stock ID	Area	Common name	Scientific name	Category	type	ratio 1992	ratio current	pre-1992	post-1992	pre-1992	post-1992	pre-1992	post-1992
POLLFAPL	Faroe Plateau	Pollock	Pollachius virens	Demersal	*	0.5200	0.9900	-0.0148	0.0068	-0.0056	0.0423	-0.0119	0.0355
POLLNEAR	North-East Arc- tic	Pollock	virens Pollachius virens	Demersal	*	0.7200	1.7000	-0.0447	0.1547	-0.0546	0.1137	-0.0275	0.1339
POLLNS-VI-IIIa	IIIa, VI and North Sea	Pollock	Pollachius virens	Demersal	*	0.2700	0.5700	-0.0517	0.0700	-0.0483	0.0784	-0.0313	0.0781
POPERCHGA	Gulf of Alaska	Pacific ocean perch	Sebastes alu- tus	Demersal		0.3000	1.1600	-0.0686	0.1400	-0.0901	0.0747	-0.0698	0.0853
POPERCHPCOAST	Pacific Coast	Pacific ocean perch	Sebastes alu- tus	Demersal		0.5300	0.6900	-0.0429	0.0053	-0.0399	0.0194	-0.0398	0.0174
PSOLENPCOAST	Northern Pacific Coast	Petrale sole	Eopsetta $jordani$	Demersal		0.4800	1.8700	-0.0293	0.0324	-0.0268	0.1124	-0.0300	0.1050
PSOLESPCOAST	Southern Pacific Coast	Petrale sole	Eopsetta $jordani$	Demersal		0.2700	1.1300	-0.0220	-0.0063	-0.0206	0.0872	-0.0226	0.1089
PTOOTHFISHPEI	South Africa Subantarctic Prince Edward Islands	Patagonian toothfish	Dissostichus eleginoides	Demersal		4.8800	1.8100	0.0033	-0.0656	-0.0004	-0.0775	-0.0005	-0.0619
REXSOLEGA	Gulf of Alaska	Rex sole	Glyptocephalus zachirus	Demersal		2.2200	2.6000	0.0142	0.0005	0.0147	0.0006	0.0235	0.0103
REYEROCKBSAI	Bering Sea and Aleutian Islands	Rougheye rockfish	Sebastes aleu- tianus	Demersal		1.1100	1.1500	0.0088	0.0020	0.0140	0.0052	0.0000	0.0021
REYEROCKGA	Gulf of Alaska	Rougheye rockfish	Sebastes aleu- tianus	Demersal		1.4700	1.6400	-0.0209	0.0068	-0.0199	0.0075	-0.0207	0.0071
RPORGYSATLC	Southern At- lantic coast	Common	Pagrus pagrus	Demersal		0.3200	0.6100	-0.1179	0.0182	-0.0982	0.0594	-0.1020	0.0550
RSNAPEGM	Eastern Gulf of Mexico	Red snapper	Lutjanus campechanus	Demersal				-0.1176	0.0441	-0.1101	0.0922	-0.0999	0.0612
RSNAPSATLC	Southern At- lantic coast	Red snapper	Lutjanus campechanus	Demersal		0.0200	0.0200	-0.1215	0.0697	-0.1256	0.0321	-0.0947	0.0098
SABLEFEBSAIGA	Eastern Bering Sea / Aleutian Islands / Gulf of Alaska	Sablefish	Anoplopoma $fimbria$	Demersal		1.2800	1.0500	-0.0150	-0.0163	-0.0126	-0.0085	-0.0051	-0.0123
SABLEFPCOAST	Pacific Coast	Sablefish	Anoplopoma fimbria	Demersal	*	0.9300	0.8400	-0.0068	-0.0542	-0.0055	-0.0150	-0.0089	-0.0099
SARDNPAC	North Pacific	Sardine	Sardinops sagax	Pelagic	*	0.3100	1.7300	0.4959	0.0867	0.4736	0.0787	0.4155	0.0870
SARDPCOAST	Pacific Coast	Sardine	Sardinops	Pelagic	*		1.3600	0.5457	0.0878	0.5053	0.0715	0.4600	0.0714
SARDPVIIIc-IXa	VIIIc-IXa	European	sagax Sardina	Pelagic				-0.0033	-0.0094	0.0041	-0.0044	0.0233	0.0071
SBELLYROCKPCOAST	Pacific Coast	pilchard Shortbelly rockfish	pilchardus Sebastes jor- dani	Demersal				-0.0181	-0.0222	-0.0249	-0.0774	-0.0245	-0.0589
SBWHITACIR	New Zealand - Campbell Island	Southern blue whiting	dani Micromesistius australis	Demersal		0.5600	1.1500	-0.0131	0.0447	-0.0508	0.0202	-0.0646	0.0514
SFLOUNMATLC	Rise Mid-Atlantic Coast	Summer floun- der	$Paralichthys \\ dentatus$	Demersal		0.1800	0.7200	-0.0720	0.1143	-0.1371	0.0928	-0.0944	0.0943

								Cont	inuous	Discor	ntinuous	D	rift
Stock ID	Area	Common name	Scientific name	Category	type	ratio 1992	ratio current	pre-1992	post-1992	pre-1992	post-1992	pre-1992	post-1992
SILVERFISHSE	Southeast Aus- tralia	Silverfish	Seriolella punctata	Demersal		1.1700	1.0300	-0.0384	-0.0214	-0.0285	-0.0139	-0.0442	-0.0093
SKJCWPAC	Central Western Pacific	Skipjack tuna	Katsuwonus pelamis	Pelagic		4.0000	4.3800	0.0184	-0.0036	0.0269	0.0099	0.0098	0.0065
SMOOTHOREOCR	Chatham Rise	Smooth oreo	Pseudocyttus maculatus	Demersal		2.9900	2.2500	-0.0243	-0.0226	-0.0213	-0.0206	-0.0222	-0.0203
SMOOTHOREOWECR	West end of Chatham Rise	Smooth oreo	Pseudocyttus maculatus	Demersal		1.5900	1.2500	-0.0500	-0.0404	-0.0401	-0.0217	-0.0481	-0.0203
SNOWGROUPSATLC	Southern At- lantic coast	Snowy grouper	Epinephelus $niveatus$	Demersal		0.3400	0.1900	-0.0824	-0.0755	-0.0779	-0.0437	-0.0707	-0.0589
SOLECS	Celtic Sea	common Euro- pean sole	$Solea\ vulgaris$	Demersal	*	0.8600	0.9000	-0.0555	0.0275	-0.0538	0.0304	-0.0480	0.0052
SOLEIS	Irish Sea	common Euro- pean sole	$Solea\ vulgaris$	Demersal	*	0.6700	0.3600	-0.0193	-0.0333	-0.0125	-0.0201	-0.0313	-0.0399
SOLENS	North Sea	common Euro- pean sole	$Solea\ vulgaris$	Demersal				-0.0126	-0.0198	-0.0199	-0.0558	0.0058	-0.0674
SOLEVIId	Eastern English Channel	common Euro- pean sole	Solea vulgaris	Demersal				0.0207	-0.0034	0.0057	-0.0090	0.0223	0.0025
SOLEVIIe	Western English Channel	common Euro- pean sole	Solea vulgaris	Demersal	*	0.6100	0.5100	-0.0005	-0.0292	0.0082	-0.0108	-0.0034	-0.0149
SOUTHHAKECR	Chatham Rise	Southern hake	Merluccius australis	Demersal		5.1800	1.7700	0.0102	-0.0690	0.0139	-0.0648	0.0044	-0.0768
SOUTHHAKESA	Sub-Antarctic	Southern hake	Merluccius australis	Demersal		5.4700	2.9100	0.0130	-0.0495	0.0267	-0.0358	0.0103	-0.0421
SPANMACKSATLC	Southern At- lantic coast	Spanish mack- erel	$Scomberomorus \ maculatus$	Pelagic		0.2500	0.3800	-0.0388	0.0566	-0.0430	0.0300	-0.0373	0.0282
SPRAT22-32	Baltic Areas 22- 32	Sprat	Sprattus sprat- tus	Pelagic	*	1.1500	1.1300	0.0290	0.0440	-0.0229	-0.0144	0.0140	0.0097
SSTHORNHPCOAST	Pacific Coast	Shortspine thornyhead	$Sebastolobus \ alascanus$	Demersal		1.7300	1.5700	-0.0030	-0.0286	-0.0025	-0.0064	-0.0041	-0.0074
STFLOUNNPCOAST	Northern Pacific Coast	Starry flounder	Platichthys $stellatus$	Demersal		4.1600	1.1000	0.0498	-0.0333	0.0279	-0.0815	0.0448	-0.1024
STFLOUNSPCOAST	Southern Pacific Coast	Starry flounder	Platichthys $stellatus$	Demersal		1.7900	1.5500	0.0190	-0.0069	0.0334	0.0246	0.0055	-0.0114
STRIPEDBASSGOMCH	ATTAIlf of Maine / Cape Hatteras	Striped bass	Morone sax- atilis	Demersal				0.2426	0.0892	0.1807	0.0660	0.2060	0.0651
SWHITSE	Southeast Australia	School whiting	Sillago $flindersi$	Demersal		0.9900	0.6600	-0.0138	-0.0461	-0.0136	-0.0446	-0.0162	-0.0265
SWORDNATL	Northern At- lantic	Swordfish	Xiphias glad- ius	Pelagic	*	0.9100	1.0300	-0.0685	-0.0018	-0.0622	0.0036	-0.0479	0.0115
TIGERFLATSE	Southeast Aus- tralia	Tiger flathead	Neoplatycephalus richardsoni	Demersal		2.2400	1.9900	-0.0138	0.1060	-0.0180	-0.0038	-0.0094	-0.0086
TILESATLC	Southern At- lantic coast	Tilefish	Lopholatilus chamaeleonti-	Demersal		1.0100	0.9400	-0.0401	-0.0226	-0.0367	0.0017	-0.0349	-0.0075
TREVALLYTRE7	New Zealand Ar-	Trevally	ceps Pseudocaranx	Demersal		1.8500	1.4400	-0.0211	-0.0096	-0.0223	-0.0230	-0.0144	-0.0193
VSNAPGM	eas TRE 7 Gulf of Mexico	Vermilion snapper	$dentex \ Rhomboplites \ aurorubens$	Demersal				-0.0192	-0.0432	0.0152	-0.0224	-0.0077	-0.0363

								Cont	inuous	Discor	ntinuous	D	rift
Stock ID	Area	Common name	Scientific name	Category	type	ratio 1992	ratio current	pre-1992	post-1992	pre-1992	post-1992	pre-1992	post-1992
VSNAPSATLC	Southern At- lantic coast	Vermilion snapper	Rhomboplites aurorubens	Demersal		1.1200	0.8600	-0.0242	-0.0199	-0.0243	-0.0209	-0.0239	-0.0197
WEAKFISHATLC	Atlantic Coast	Weakfish	Cynoscion re- galis	Demersal		7.0700	0.7900	-0.0379	-0.1393	-0.0597	-0.1488	-0.0611	-0.1373
WHAKEGBGOM	Gulf of Maine / Georges Bank	White hake	Urophycis tenuis	Demersal		0.5600	0.3500	0.0018	-0.0776	0.0189	-0.0266	0.0131	-0.0306
WHITNS-VIId-IIIa	IIIa, VIId and North Sea	Whiting	Merlangius merlangus	Demersal	*	0.8900	0.3300	-0.0428	-0.0543	-0.0464	-0.0563	-0.0557	-0.0718
WHITVIIek	Celtic Sea	Whiting	Merlangius merlangus	Demersal	*	0.7900	0.4400	0.1253	-0.0294	0.0679	-0.0509	0.0713	-0.0221
WINFLOUN5Z	Georges Bank	Winter floun- der	Pseudopleuronec americanus			0.3300	0.2800	-0.0969	0.0320	-0.1025	0.0299	-0.1103	-0.0116
WINFLOUNSNEMATL	Southern New England /Mid Atlantic	Winter floun- der	Pseudopleuronec americanus	teDemersal		0.0900	0.0900	-0.1354	-0.0099	-0.1311	-0.0081	-0.1305	-0.0029
WITFLOUN5Y	Gulf of Maine	Witch flounder	Glyptocephalus cynoglossus	Demersal		0.6200	0.3000	-0.0984	-0.0125	-0.0985	-0.0125	-0.0716	-0.0480
WPOLLAI	Aleutian Islands	Walleye pol- lock	Theragra chalcogramma	Demersal		2.2300	0.8600	-0.0554	-0.0938	0.0239	-0.0466	-0.0171	-0.0596
WPOLLEBS	Eastern Bering Sea	Walleye pol- lock	Theragra chalcogramma	Demersal		1.1100	0.6600	0.0627	-0.0330	0.0636	-0.0307	0.0491	-0.0324
WPOLLGA	Gulf of Alaska	Walleye pol- lock	Theragra chalcogramma	Demersal		1.4500	0.7700	-0.0414	-0.0662	-0.0308	-0.0589	-0.0422	-0.0393
WROCKPCOAST	Pacific Coast	Widow rock- fish	Sebastes en- tomelas	Demersal	*	0.9600	0.9100	-0.0248	-0.0416	-0.0202	-0.0198	-0.0217	-0.0144
YELLGB	Georges Bank	Yellowtail flounder	Limanda ferruginea	Demersal		0.1000	0.2200	-0.0742	0.0720	-0.0947	0.0462	-0.0664	0.0504
YELLSNEMATL	Southern New England /Mid Atlantic	Yellowtail flounder	Limanda ferruginea	Demersal		0.0600	0.1300	-0.1046	-0.0357	-0.0497	0.0334	-0.1027	0.0476
YEYEROCKPCOAST	Pacific Coast	Yelloweye rockfish	Sebastes ru- berrimus	Demersal	*	0.6600	0.3800	-0.0180	-0.1088	-0.0138	-0.0268	-0.0210	-0.0297
YFINATL	Atlantic	Yellowfin tuna	Thunnus albacares	Pelagic		1.7900	1.0700	-0.0065	-0.0358	-0.0077	-0.0382	-0.0178	-0.0370
YFINCWPAC	Central Western Pacific	Yellowfin tuna	Thunnus albacares	Pelagic		2.3800	1.2200	-0.0125	-0.0549	-0.0136	-0.0628	-0.0094	-0.0513
YFINEPAC	Northeast Pa- cific	Yellowfin tuna	Thunnus albacares	Pelagic				0.0389	-0.0084	0.0307	-0.0166	-0.0067	-0.0204
YSOLEBSAI	Bering Sea and Aleutian Islands	Yellowfin sole	Limanda aspera	Demersal		2.5000	1.9400	0.0990	-0.0365	0.1065	-0.0180	0.0789	-0.0160
YTROCKNPCOAST	Northern Pacific Coast	Yellowtail rockfish	Sebastes flavidus	Demersal		1.4500	1.3600	-0.0224	0.0053	-0.0229	0.0040	-0.0176	-0.0049

								Cont	inuous	Discor	ntinuous	D	rift
Stock ID	Area	Common name	Scientific name	Category	1	ratio 1992	ratio current	pre-1992	post-1992	pre-1992	post-1992	pre-1992	post-1992

Table 1: A description of each population's alphanumeric identification code, geographic location, common and scientific names, taxonomic category, reference point type, ratios of biomass to MSY reference point for 1992 and the current year and values for the slopes under the three different models.