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Supporting Online Material for

Resolving Hjort's Dilemma:
How Is Recruitment Related to Spawning
Stock Biomass in Marine Fish?

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Supplementary Table 1. Time series used in the global analysis of stock-recruitment (SR) relationships. Each time series is one fish species at one location. The scientific name of the species, the geographic location of the population, the length of the time series, the type of data, and the source of the data are provided for (A) demersal, (B) small pelagic, and (C) large pelagic fish species.

A – Demersal fish species Scientific Name	Area	Time Series	Type of Data	Data Source	
Atheresthes stomias	Gulf of Alaska	1961 to 2001	VPA	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
Balistes capriscus	Gulf of Mexico	1981 to 2001	"	"	"
Centropristis striata	Mid-Atlantic Coast	1968 to 2005	"	"	"
Chrysophrys auratus	New Zealand Area 8 (Auckland and Central West)	1968 to 1997	"	"	"
Epinephelus niveatus	Southern Atlantic Coast	1963 to 2002	"	"	"
Gadus macrocephalus	Bering Sea and Aleutian Islands	1977 to 2007	"	"	"
Gadus macrocephalus	Gulf of Alaska	1977 to 2006	"	"	"
Gadus morhua	Georges Bank	1978 to 2002	"	"	"
"	Northern Gulf of St. Lawrence	1974 to 2004	"	"	"
"	Southern Gulf of St. Lawrence	1971 to 2002	"	"	"
"	St. Pierre Bank	1977 to 2002	"	"	"
"	Eastern Baltic Sea	1966 to 2003	"	"	"
"	Faroe Plateau	1961 to 2002	"	"	"
"	Flemish Cap	1988 to 2005	"	"	"
"	Iceland Grounds	1955 to 2000	"	"	"
"	Irish Sea	1968 to 2006	"	"	"
"	Kattegat and Skagerrak	1971 to 2004	"	"	"
"	North Sea	1963 to 2002	"	"	"
"	Southern Grand Banks	1959 to 2001	"	"	"
"	West of Scotland	1978 to 2004	"	"	"
"	Western Baltic Sea	1970 to 2005	"	"	"
"	Georges Bank	1978 to 2006	"	"	"

"	Gulf of Maine	1982 to 2005	"	"	"
"	Division VIa (West of Scotland)	1981 to 2012	"	ICES	http://www.ices.dk/marine-data
"	Divisions VIIe/k (Celtic Sea)	1971 to 2012	"	"	"
"	Sub-area IV. Division VIII d & Division IIIa (Skagerrak)	1963 to 2011	"	"	"
Genypterus blacodes	Western Half of Southeast Australia	1980 to 2007	VPA	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
"	New Zealand Areas LIN 3 and 4	1972 to 2000	"	"	"
"	New Zealand Areas LIN 5 and 6	1972 to 2001	"	"	"
"	New Zealand Areas LIN 7WC-WCSI	1972 to 2002	"	"	"
Glyptocephalus cynoglossus	Gulf of Maine	1982 to 2005	"	"	"
Glyptocephalus zachirus	Gulf of Alaska	1989 to 1998	"	"	"
Hexagrammos decagrammus	Oregon Coast	1979 to 2005	"	"	"
Hippoglossoides elassodon	Bering Sea and Aleutian Islands	1977 to 2002	"	"	"
"	Gulf of Alaska	1984 to 1990	"	"	"
Hippoglossoides platessoides	Flemish Cap	1988 to 2005	"	"	"
"	Grand Banks	1960 to 1997	"	"	"
"	Gulf of Maine/Georges Bank	1980 to 2006	"	"	"
"	GOMGB	1980 to 2003	"	Literature	O'Brien, L., J. Burnett, and L. Col. 2005. Gulf of Maine/Georges Bank American plaice. Pp. 215–240 in <i>Assessment of 19 Northeast Groundfish Stocks Through 2004</i> . R.K. Mayo and M. Terceiro, eds, Northeast Fisheries Science Center Reference Document 05-13, http://www.nefsc.noaa.gov/nefsc/publications/crd/crd0513/crd0513.pdf .
"	WG	1982 to 1988	"	<i>pers. comm.</i>	Benoît Archambault, Agrocampus Ouest, Rennes, France
Hippoglossus stenolepis	-	1996 to 2004	"	"	"
Lepidopsetta bilineata	Hecate Strait	1945 to 1993	"	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
Lepidopsetta polyxystra	Eastern Bering Sea and Aleutian Islands	1975 to 1999	"	"	"
Lepidorhombus boscii	VIIIc-IXa	1986 to 2006	"	"	"

Lepidorhom buswhiffiagonis	VIIIc-IXa	1986 to 2004	"	"	"
Limanda aspera	Bering Sea and Aleutian Islands	1964 to 1998	"	"	"
Limanda ferruginea	Cape Cod - Gulf of Maine	1985 to 2005	"	"	"
Limanda ferruginea	Georges Bank	1973 to 2006	"	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
"	Southern New England/Mid Atlantic Ocean	1973 to 2005	"	"	"
Lopholatilus chamaeleonticeps	Southern Atlantic Coast	1961 to 1999	"	"	"
Lutjanus analis	Southern Atlantic Coast and Gulf of Mexico	1981 to 2003	"	"	"
Lutjanus campechanus	Eastern Gulf of Mexico	1982 to 2001	"	"	"
"	Western Gulf of Mexico	1984 to 2001	"	"	"
Macrurus magellanicus	Southern Argentina	1985 to 2003	VPA	"	"
Macrurus novae zelandiae	Eastern New Zealand	1972 to 2005	"	"	"
"	Western New Zealand	1972 to 2005	"	"	"
Melanogrammus aeglefinus	Georges Bank	1969 to 2001	"	"	"
"	Faroe Plateau	1957 to 2002	"	"	"
"	Iceland Grounds	1979 to 2003	"	"	"
"	ICES VIIb-k	1993 to 2006	"	"	"
"	IIIa and North Sea	1963 to 2006	"	"	"
"	Northeast Arctic	1950 to 2000	"	"	"
"	Rockall Bank	1991 to 2005	"	"	"
"	West of Scotland	1978 to 2004	"	"	"
"	Georges Bank	1931 to 2006	"	"	"
"	Gulf of Maine	1977 to 2006	VPA	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
"	Divisions VIIb-k	1993 to 2012	"	ICES	http://www.ices.dk/marine-data
"	Irish Sea	1992 to 2006	Field data	RAMlegacy	http://ramlegacy.marinebiodiversity.ca

Merlangius merlangus	Black Sea	1971 to 1991	VPA	Literature	Daskalov, G. 1999. Relating fish recruitment to stock biomass and physical environment in the Black Sea using generalised additive models. <i>Fisheries Research</i> 41:1–23.
"	Division VIa (West of Scotland)	1981 to 2012	VPA and field data	ICES	http://www.ices.dk/marine-data
"	Celtic Sea	1982 to 2006	VPA	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
"	Sub-area IV (North Sea) & Division VIId (Eastern Channel)	1990 to 2012	"	ICES	http://www.ices.dk/marine-data
"	West of Scotland	1985 to 2005	Field data	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
Merluccius australis	Chatham Rise	1975 to 2004	VPA	"	"
"	Sub-Antarctic	1975 to 2005	"	"	"
Merluccius hubbsi	Northern Argentina	1986 to 2005	"	"	"
"	Southern Argentina	1986 to 2006	"	"	"
Merluccius merluccius	IIIa-IV-VI-VII-VIIIabd	1979 to 2005	"	"	"
"	VIIIc/IXa	1982 to 2007	"	"	"
Merluccius productus	Pacific Coast	1966 to 2008	"	"	"
Micromesistius australis	Southern Argentina	1987 to 2004	VPA	"	"
"	New Zealand/Campbell Island Rise	1979 to 2002	"	"	"
Micropogonias undulatus	Mid-Atlantic Coast	1973 to 2002	"	"	"
Morone saxatilis	Gulf of Maine /Cape Hatteras	1982 to 2004	"	"	"
Myxeroperca camirolepis	Southern Atlantic Coast	1962 to 2001	"	"	"
Ocyurus chrysurus	Southern Atlantic Coast	1981 to 1999	"	"	"
Pagrus pagrus	Southern Atlantic Coast	1972 to 2002	"	"	"
Paralichthys dentatus	Mid-Atlantic Coast	1982 to 2007	"	"	"
Platichthys stellatus	Southern Pacific Coast	1970 to 2005	"	"	"
Platycephalus conatus	Southeast Australia	1984 to 2007	"	"	"
Pleurogrammus monopterygius	Bering Sea and Aleutian Islands	1977 to 2005	"	"	"

Pleuronectes platessa	Celtic Sea	1977 to 2004	"	"	"
"	Eastern English Channel	1980 to 2004	"	"	"
"	Irish Sea	1964 to 2002	"	"	"
"	Kattegat and Skagerrak	1978 to 2002	"	"	"
Pleuronectes platessa	North Sea	1957 to 2004	VPA	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
"	Western English Channel	1976 to 2004	"	"	"
"	Eastern English Channel	1980 to 2009	"	<i>pers. comm.</i>	Benoît Archambault, Agrocampus Ouest, Rennes, France
"	Division VIII (Eastern Channel)	1980 to 2012	"	ICES	http://www.ices.dk/marine-data
"	Division VIIe (Western Channel)	1980 to 2012	"	"	"
"	Celtic Sea (Divisions VIIf and g)	1993 to 2011	"	"	"
Pleuronectes quadrituberculatus	Bering Sea and Aleutian Islands	1975 to 2002	"	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
Pollachius virens	Faroe Plateau	1961 to 2000	"	"	"
"	Northeast Arctic	1960 to 2000	"	"	"
"	Division Vb	1961 to 2012	"	ICES	http://www.ices.dk/marine-data
"	Division Va	1980 to 2012	"	"	"
Pseudopleuronecte samericanus	Georges Bank	1982 to 2005	"	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
"	Southern New England/Mid Atlantic	1981 to 2006	VPA	"	"
Reinhardtius hippoglossoides	Labrador Shelf/Grand Banks	1975 to 1998	"	"	"
"	Northeast Arctic	1964 to 1996	"	"	"
"	Bering Sea and Aleutian Islands	1970 to 2008	"	Literature	Ianelli, J., T.K. Wilderbuer, and D. Nichol. 2012. Assessment of Greenland Turbot (<i>Reinhardtius hippoglossoides</i>) in the Eastern Bering Sea and Aleutian Islands. Pp. 741–893 in <i>NPFMC Bering Sea and Aleutian Islands SAFE</i> , http://www.afsc.noaa.gov/refm/docs/2012/BSAIturbot.pdf .
"	Labrador Shelf/Grand Banks	1975 to 2009	"	<i>pers. comm.</i>	Benoît Archambault, Agrocampus Ouest, Rennes, France
Reinhardtius stomias	Bering Sea and Aleutian Islands	1976 to 2000	"	RAMlegacy	http://ramlegacy.marinebiodiversity.ca

Rhomboplites aurorubens	Gulf of Mexico	1996 to 1999	"	"	"
Scorpaena guttata	Southern California	1995 to 2004	"	"	"
Sebastes aleutianus	Bering Sea and Aleutian Islands	1977 to 2002	"	"	"
Sebastes alutus	Eastern Bering Sea and Aleutian Islands	1977 to 1995	"	"	"
"	Gulf of Alaska	1977 to 2005	"	"	"
"	Pacific Coast	1956 to 2000	"	"	"
Sebastes entomelas	Pacific Coast	1958 to 2000	"	"	"
Sebastes flavidus	Northern Pacific Coast	1967 to 2001	"	"	"
Sebastes polyspinis	Bering Sea and Aleutian Islands	1977 to 1995	"	"	"
"	Gulf of Alaska	1961 to 2003	"	"	"
Sebastes variabilis	Gulf of Alaska	1977 to 1999	"	"	"
Sebastolo busaltivelis	Pacific Coast	1964 to 2001	"	"	"
Sillago flindersi	Southeast Australia	1945 to 2007	"	"	"
Solea vulgaris	Bay of Biscay	1984 to 2002	"	"	"
"	Celtic Sea	1971 to 2004	"	"	"
"	Eastern English Channel	1982 to 2004	VPA	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
"	Irish Sea	1970 to 2002	"	"	"
"	Kattegat and Skagerrak	1984 to 2003	"	"	"
"	North Sea	1957 to 2004	"	"	"
"	Western English Channel	1969 to 2004	"	"	"
Stenotomus chrysops	Northwestern Atlantic Coast	1984 to 2007	"	"	"
Theragra chalcogramma	Aleutian Islands	1978 to 2005	VPA	"	"
"	Eastern Bering Sea	1964 to 2006	"	"	"
"	Gulf of Alaska	1977 to 2004	"	"	"

Trisopterus esmarkii	North Sea	1983 to 2007	"	"	"
Urophycis cisternus	Gulf of Maine/Georges Bank	1963 to 2006	"	"	"

B – Pelagic fish species					
Scientific Name	Area	Time Series	Type of data	Data Source	
Ammodytes marinus	North Sea	1983 to 2006	VPA	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
Brevoortia patronus	Gulf of Mexico	1964 to 1993	"	"	"
Clupea harengus	Scotian Shelf and Bay of Fundy	1965 to 2004	"	"	"
"	22–24-IIIa	1991 to 2006	"	"	"
"	Bothnian Bay	1980 to 2004	"	"	"
"	Bothnian Sea	1973 to 2005	"	"	"
"	Eastern Baltic	1974 to 2004	"	"	"
"	Gulf of Riga East of Gotland	1977 to 2005	"	"	"
"	Iceland Grounds	1986 to 2001	"	"	"
"	Irish Sea	1961 to 2004	"	"	"
"	North Sea	1960 to 2006	"	"	"
"	West of Scotland	1958 to 2004	"	"	"
"	Northwestern Atlantic Coast	1967 to 2001	"	"	"
"	Celtic Sea and Division VIIj	1958 to 2012	"	ICES	http://www.ices.dk/marine-data
"	Division VIa (North)	1957 to 2012	"	"	"
"	Sub-area IV. Divisions VIId&IIIa	1947 to 2012	"	"	"
"	Gulf of Riga	1974 to 2012	"	"	"
"	Irish Sea (Division VIIa)	1961 to 2012	"	"	"

"	-	1988 to 2012	"	"	"
Clupea pallasii	Central Coast	1951 to 2001	"	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
"	Prince Rupert District	1951 to 2001	"	"	"
"	Queen Charlotte Islands	1951 to 2001	"	"	"
"	Straight of Georgia	1951 to 2001	"	"	"
"	West Coast of Vancouver Island	1951 to 2001	"	"	"
"	Prince William Sound	1980 to 2000	"	"	"
"	Sitka	1978 to 2001	"	"	"
Engraulis anchoita	Northern Argentina	1990 to 2005	"	"	"
"	Southern Argentina	1993 to 2005	"	"	"
Engraulis capensis	-	1986 to 2000	"	Literature	Jacobson, L.D., N.C.H. Lo, S.F. Herrick Jr., and T. Bishop. 1995. <i>Spawning Biomass of the Northern Anchovy in 1995 and Status of the Coastal Pelagic Fishery During 1994</i> . US Department of Commerce, NOAA, Southwest Fisheries Science Center, Administrative Report LJ-95-11, 49 pp.
Engraulis encrasicolus	South Africa	1984 to 2005	"	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
"	Black Sea	1967 to 1993	"	Literature	Daskalov, G. 1999. Relating fish recruitment to stock biomass and physical environment in the Black Sea using generalised additive models. <i>Fisheries Research</i> 41:1–23.
"	Area VIII (Bay of Biscay)	1987 to 2002	Observations	ICES	CooperativeResearch Report No 255.
Engraulis mordax	-	1964 to 1995	VPA	Literature	Jacobson et al., 1995.
Engraulis ringens	North/Central Peruvian Coast	1963 to 2004	"	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
"	Central/South Chile	1991 to 2002	"	Literature	Barange, M., M. Bernal, M.C. Cergole, L.A. Cubillos, C.L. Cunningham, G.M. Daskalov, C. L. de Moor, J.A.A. De Oliveira, M. Dickey-Collas, Dave J. Gaughan, and others. 2009. Current trends in the assessment and management of small pelagic fish stocks. Pp. 191–255 in <i>Climate Change and Small Pelagic Fish Stocks</i> . Academic, UK.
"	Southern Peru/Northern Chile	1984 to 2001	"	"	"
Mallotus villosus	Iceland Grounds	1978 to 2004	Observations	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
Sardina pilchardus	VIIIc–IXa	1978 to 2007	VPA	"	"
"	-	1978 to 2001	"	Literature	Barange et al., 2009.255.

Sardinops sagax	South Africa	1984 to 2005	VPA	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
"	Pacific Coast	1981 to 2007	"	"	"
Scomber japonicus	Pacific Coast	1929 to 2007	"	"	"
"	Pacific	1963 to 2000	"	Literature	Barange et al., 2009
Scomber scombrus	Ila-IIIabd-IV-Vb-VI-VII-VIIIabcde-XII-XIV-lxa	1972 to 2006	"	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
"	Gulf of Maine/Cape Hatteras	1962 to 2002	"	"	"
Sprattus sprattus	Black Sea	1950 to 1993	"	Literature	Daskalov, 1999.
"	Baltic Areas 22-32	1974 to 2005	"	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
Strangomera bentincki	Central/South Chile	1991 to 2002	"	Literature	Barange et al., 2009.
Trachurus mediterraneus	Black Sea	1965 to 1992	"	Literature	Daskalov, 1999.
Trachurus murphyi	-	1982 to 2001	"	Literature	Barange et al., 2009.
Trachurus trachurus	Ila.IVa.Vb.VIa.VIIa-c.e-k.VIIIa-e	1982 to 2011	"	ICES	http://www.ices.dk/marine-data

C- Large pelagic fish species Scientific Name	Area	Time Series	Type of Data	Source	
Kajikia audax	Western Pacific Ocean	1950 to 2001	VPA	RAMlegacy	http://ramlegacy.marinebiodiversity.ca
Katsuwonus pelamis	Central Western Pacific Ocean	1972 to 2005	"	"	"
Pomatomuss altatrix	Atlantic Coast	1982 to 2007	"	"	"
Pseudocaranx dentex	New Zealand Areas TRE 7	1944 to 2003	"	"	"
Rexea solandri	Southeast Australia	1966 to 2003	"	"	"
Scomberomorus cavalla	Gulf of Mexico	1992 to 1999	"	"	"
Seriolella brama	Eastern Half of Southeast Australia	1984 to 2006	"	"	"
"	Western Half of Southeast Australia	1984 to 2006	"	"	"
Seriolella punctata	Southeast Australia	1978 to 2006	"	"	"
Thunnus alalunga	Northern Atlantic Ocean	1930 to 1999	"	"	"
"	South Pacific Ocean	1959 to 2001	"	"	"
Thunnus albacares	Northeast Pacific Ocean	1975 to 2003	"	"	"
"	Atlantic Ocean	1970 to 2003	"	"	"
"	Central Western Pacific Ocean	1952 to 2001	"	"	"
Thunnus obesus	Eastern Pacific Ocean	1975 to 2003	"	"	"
"	Western Pacific Ocean	1952 to 2000	"	"	"
Thunnus thynnus	Eastern Atlantic Ocean	1970 to 2003	"	"	"
"	Western Atlantic Ocean	1970 to 2002	"	"	"