

Supplementary materials for Fish and Fisheries manuscript

June 11, 2010

Supporting Information

Entity relationship diagram

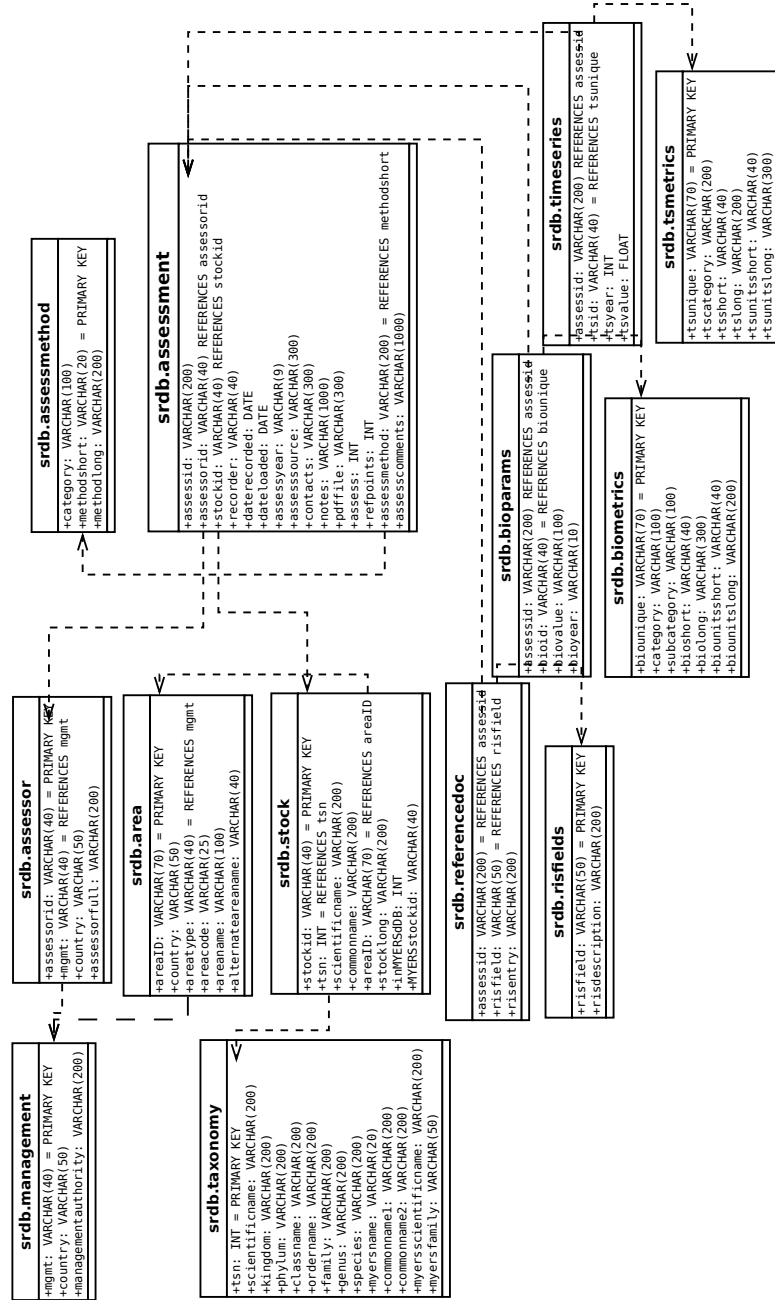


Figure 1: Entity relationship diagram of the RAM legacy database.

	Management Stock ID		Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
3	AFMA	Deepwater flathead Southeast Australia	<i>Platycephalus conatus</i>	1978-2007	2006	1.33	0.61	no	[?]
	AFMA	common gemfish South-east Australia	<i>Rexea solandri</i>	1966-2007	2007	0.10	0.39	no	[?]
	AFMA	Jackass morwong Southeast Australia	<i>Nemadactylus macropterus</i>	1913-2007	2007	0.25	1.80	no	[?]
	AFMA	New Zealand ling Eastern half of Southeast Australia	<i>Genypterus blacodes</i>	1968-2007	2007	0.60	2.20	no	[?]
	AFMA	Orange roughy Cascade Plateau	<i>Hoplostethus atlanticus</i>	1987-2006	2006	1.76	0.34	no	[1]
	AFMA	Orange roughy South-east Australia	<i>Hoplostethus atlanticus</i>	1978-2007	2006	0.89	0.29	no	[?]
	AFMA	Silverfish Southeast Australia	<i>Seriolella punctata</i>	1978-2006	2006	1.15	0.79	no	[?]
	AFMA	School whiting South-east Australia	<i>Sillago flindersi</i>	1945-2007	2007	1.10	0.82	no	[?]
	AFMA	Tiger flathead South-east Australia	<i>Neoplatycephalus richardsoni</i>	1913-2006	2006	1.05	0.00	no	[?]
	AFMA	Blue Warehou Eastern half of Southeast Australia	<i>Seriolella brama</i>	1984-2006	2006	0.17	0.84	no	[?]
	AFMA	Blue Warehou Western half of Southeast Australia	<i>Seriolella brama</i>	1984-2006	2006	0.62	2.04	no	[?]
	AFMA	Tasmanian giant crab Tasmania	<i>Pseudocarcinus gigas</i>	1990-2007	2007	0.50	1.71	no	[2]

Continued on next page

Management Stock ID	Scientific name		Timespan	Current year	B ratio	U ratio	From assessment	Ref.
CCAMLR	Antarctic toothfish	<i>Dissostichus mawsoni</i>	1995-2007	2007	1.76	1.09	no	[?]
CFP	Argentine anchoita	<i>Engraulis anchoita</i>	1989-2007	2007	1.37	0.17	yes	[3]
CFP	Argentine anchoita	<i>Engraulis anchoita</i>	1992-2007	2007	3.13	0.04	yes	[4]
CFP	Argentine hake North- ern Argentina	<i>Merluccius hubbsi</i>	1985-2007	2007	0.16	1.26	yes	[5]
CFP	Argentine hake South- ern Argentina	<i>Merluccius hubbsi</i>	1985-2008	2008	0.34	1.49	yes	[6]
CFP	Patagonian grenadier	<i>Macruronus magellanicus</i>	1983-2006	2006	1.82	0.60	yes	[7]
DETMCM	Anchovy South Africa	<i>Engraulis encrasicolus</i>	1984-2006	2006	0.97	0.36	no	[?]
DETMCM	Shallow-water cape hake South Africa	<i>Merluccius capensis</i>	1917-2008	2008	1.16	0.40	no	[8]
DETMCM	Cape horse mackerel South Africa South coast	<i>Trachurus capensis</i>	1950-2007	2007	1.47	0.76	no	[9]
DETMCM	Kingklip South Africa	<i>Engraulis encrasicolus</i>	1932-2008	2008	1.13	0.55	no	[10]
DETMCM	Sardine South Africa	<i>Sardinops sagax</i>	1984-2006	2006	0.75	0.55	no	[11]
DETMCM	Southern spiny lobster South Africa South coast	<i>Palinurus gilchristi</i>	1973-2008	2008	0.51	1.50	no	[12]
DFO	Atlantic cod NAFO 5Zjm	<i>Gadus morhua</i>	1978-2003	2002	0.34	0.45	no	[13]
DFO	Haddock NAFO-4X5Y	<i>Melanogrammus aeglefinus</i>	1960-2003	2003	0.85	0.33	no	[14]

Continued on next page

Management Stock ID		Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
DFO	Haddock NAFO-5Zejm	<i>Melanogrammus aeglefinus</i>	1969-2003	2002	1.00	0.65	no	[15]
DFO	Atlantic cod NAFO 2J3KL inshore	<i>Gadus morhua</i>	1959-2006	2005	1.60	0.14	no	[16]
DFO	Atlantic cod NAFO 3Ps	<i>Gadus morhua</i>	1959-2004	2004	0.49	0.41	no	[17]
DFO	English sole Hecate Strait	<i>Parophrys vetulus</i>	1944-2001	2001	1.23	0.37	no	[18]
DFO	Pacific herring Central Coast	<i>Clupea pallasii</i>	1951-2007	2007	0.30	0.11	no	[?]
DFO	Pacific herring Prince Rupert District	<i>Clupea pallasii</i>	1951-2007	2007	0.16	0.32	no	[?]
DFO	Pacific herring Queen Charlotte Islands	<i>Clupea pallasii</i>	1951-2007	2007	0.20	0.00	no	[?]
DFO	Pacific herring Strait of Georgia	<i>Clupea pallasii</i>	1951-2007	2007	0.91	0.40	no	[?]
DFO	Pacific herring West Coast of Vancouver Island	<i>Clupea pallasii</i>	1951-2007	2007	0.03	0.00	no	[?]
DFO	Pacific cod Hecate Strait	<i>Gadus macrocephalus</i>	1956-2005	2004	0.37	0.25	no	[?]
DFO	Pacific cod West Coast of Vancouver Island	<i>Gadus macrocephalus</i>	1956-2002	2001	0.28	0.61	no	[?]
DFO	Rock sole Hecate Strait	<i>Lepidopsetta bilineata</i>	1945-2001	2001	1.03	0.45	no	[18]
DFO	Pollock NAFO-4VWX5Zc	<i>Pollachius virens</i>	1974-2007	2006	0.56	0.30	no	[19]
DFO	Atlantic cod NAFO 3Pn4RS	<i>Gadus morhua</i>	1964-2007	2006	0.09	0.79	no	[20]

Continued on next page

Management Stock ID				Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
DFO	Atlantic cod	NAFO		<i>Gadus morhua</i>	1965-2007	2006	0.17	0.32	no	[21]
ICCAT	Albacore Atlantic	tuna	North	<i>Thunnus alalunga</i>	1929-2005	2005	0.81	1.49	yes	[?]
ICCAT	Bluefin Atlantic	tuna	Eastern	<i>Thunnus thynnus</i>	1969-2007	2007	0.34	9.38	yes	[?]
ICCAT	Bluefin Atlantic	tuna	Western	<i>Thunnus thynnus</i>	1969-2007	2007	0.57	1.33	yes	[?]
ICCAT	Bigeye	tuna	Atlantic	<i>Thunnus obesus</i>	1950-2005	2005	0.90	0.86	no	[22]
ICCAT	Skipjack Atlantic	tuna	Eastern	<i>Katsuwonus pelamis</i>	1950-2006	2006	1.71	0.27	no	[23]
ICCAT	Skipjack Atlantic	tuna	Western	<i>Katsuwonus pelamis</i>	1952-2006	2006	1.72	0.27	no	[23]
ICCAT	Swordfish		Mediterranean Sea	<i>Xiphias gladius</i>	1968-2006	2006	0.94	1.27	yes	[24]
ICCAT	Swordfish		North Atlantic	<i>Xiphias gladius</i>	1978-2007	2005	1.03	0.82	no	[25]
ICCAT	Swordfish		South Atlantic	<i>Xiphias gladius</i>	1950-2005	2005	1.18	0.69	no	[25]
ICCAT	Yellowfin	tuna	Atlantic	<i>Thunnus albacares</i>	1970-2006	2006	1.07	0.81	yes	[26]
ICES	Capelin		Barents Sea	<i>Mallotus villosus</i>	1965-2007	2006	0.17	0.00	no	[27]
ICES	Atlantic Norway	cod	coastal	<i>Gadus morhua</i>	1982-2006	2006	0.27	2.17	no	[27]
ICES	Atlantic Arctic	cod	Northeast	<i>Gadus morhua</i>	1943-2006	2006	0.56	1.42	no	[28]
ICES	Greenland Northeast		halibut Arctic	<i>Reinhardtius hippoglossoides</i>	1959-2007	2006	0.36	1.20	no	[27]

Continued on next page

Management Stock ID	Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
ICES Golden Redfish North-east Arctic	<i>Sebastes norvegicus</i>	1986-2006	2006	0.29	2.65	no	[27]
ICES Haddock Northeast Arctic	<i>Melanogrammus aeglefinus</i>	1947-2006	2006	1.10	1.06	no	[27]
ICES Pollock Northeast Arctic	<i>Pollachius virens</i>	1957-2006	2006	1.70	0.60	no	[27]
ICES Herring ICES 22-24-IIIa	<i>Clupea harengus</i>	1991-2006	2006	0.73	1.02	no	[29]
ICES Herring Northern Irish Sea	<i>Clupea harengus</i>	1960-2006	2006	0.72	0.34	no	[29]
ICES Herring North Sea	<i>Clupea harengus</i>	1960-2007	2006	0.65	1.32	no	[29]
ICES Herring ICES VIa	<i>Clupea harengus</i>	1957-2006	2006	0.18	1.59	no	[29]
ICES Herring ICES VIa-VIIb-VIIc	<i>Clupea harengus</i>	1969-2000	2000	0.50	1.04	no	[29]
ICES Capelin Iceland	<i>Mallotus villosus</i>	1977-2007	2006	0.49	0.85	no	[?]
ICES Atlantic cod Faroe Plateau	<i>Gadus morhua</i>	1959-2006	2006	0.26	1.52	no	[?]
ICES Atlantic cod Iceland	<i>Gadus morhua</i>	1952-2006	2006	0.46	1.17	no	[?]
ICES Haddock Faroe Plateau	<i>Melanogrammus aeglefinus</i>	1955-2006	2006	0.85	1.07	no	[?]
ICES Haddock Iceland	<i>Melanogrammus aeglefinus</i>	1977-2007	2007	0.98	1.23	no	[?]
ICES Pollock Faroe Plateau	<i>Pollachius virens</i>	1958-2006	2006	0.99	1.52	no	[?]
ICES Atlantic cod Baltic Areas 22 and 24	<i>Gadus morhua</i>	1969-2007	2006	0.36	1.43	no	[?]
ICES Atlantic cod Baltic Areas 25-32	<i>Gadus morhua</i>	1964-2007	2006	0.16	1.46	no	[?]
ICES Atlantic cod Kattegat	<i>Gadus morhua</i>	1970-2006	2006	0.19	0.31	no	[?]
ICES Herring ICES 25-32	<i>Clupea harengus</i>	1973-2006	2006	0.69	0.79	no	[?]

Continued on next page

Management Stock ID	Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.	
ICES	Herring ICES 30	<i>Clupea harengus</i>	1972-2007	2006	1.19	1.10	no	[?]
ICES	Herring ICES 31	<i>Clupea harengus</i>	1979-2006	2006	0.29	1.60	no	[?]
ICES	Herring Iceland (Summer spawners)	<i>Clupea harengus</i>	1983-2007	2006	1.00	0.79	no	[?]
ICES	Herring ICES 28	<i>Clupea harengus</i>	1976-2007	2006	1.21	0.87	no	[?]
ICES	common European sole ICES Kattegat and Skagerrak	<i>Solea vulgaris</i>	1982-2007	2006	1.25	0.54	no	[?]
ICES	Sprat ICES Baltic Areas 22-32	<i>Sprattus sprattus</i>	1973-2007	2006	1.13	1.27	no	[?]
ICES	Fourspotted megrim ICES VIIIc-IXa	<i>Lepidorhombus boscii</i>	1986-2006	2006	0.70	1.01	no	[?]
ICES	Hake Northeast Atlantic North	<i>Merluccius merluccius</i>	1977-2007	2006	1.04	0.74	no	[?]
ICES	Megrim ICES VIIIc-IXa	<i>Lepidorhombus whiffiagonis</i>	1985-2007	2006	0.43	1.07	no	[?]
ICES	common European sole Bay of Biscay	<i>Solea vulgaris</i>	1982-2006	2006	0.76	1.00	no	[?]
ICES	Mackerel ICES Northeast Atlantic	<i>Scomber scombrus</i>	1972-2007	2006	0.98	0.73	no	[?]
ICES	Whiting Northeast Atlantic	<i>Micromesistius poutassou</i>	1980-2007	2006	0.67	1.66	no	[?]
ICES	Atlantic cod Irish Sea	<i>Gadus morhua</i>	1968-2006	2006	0.15	0.56	no	[?]
ICES	Atlantic cod West of Scotland	<i>Gadus morhua</i>	1977-2006	2006	0.12	0.42	no	[?]
ICES	Haddock West of Scotland	<i>Melanogrammus aeglefinus</i>	1977-2006	2006	0.58	0.73	no	[?]

Continued on next page

Management Stock ID	Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
ICES European Plaice Irish Sea	<i>Pleuronectes platessa</i>	1962-2006	2006	1.07	0.23	no	[?]
ICES common European sole Irish Sea	<i>Solea vulgaris</i>	1968-2006	2006	0.36	1.16	no	[?]
ICES Atlantic cod North Sea	<i>Gadus morhua</i>	1962-2007	2006	0.19	0.80	no	[?]
ICES Haddock ICES IIIa and North Sea	<i>Melanogrammus aeglefinus</i>	1963-2006	2006	0.62	0.25	no	[?]
ICES Haddock Rockall Bank	<i>Melanogrammus aeglefinus</i>	1990-2007	2006	1.10	0.52	no	[?]
ICES Norway pout North Sea	<i>Trisopterus esmarkii</i>	1983-2007	2006	0.90	0.33	no	[?]
ICES Pollock ICES IIIa, VI and North Sea	<i>Pollachius virens</i>	1964-2006	2006	0.57	0.97	no	[?]
ICES Sandeel North Sea	<i>Ammodytes marinus</i>	1983-2007	2007	0.92	0.24	no	[?]
ICES Whiting ICES IIIa, VIIId and North Sea	<i>Merlangius merlangus</i>	1979-2006	2006	0.33	1.04	no	[?]
ICES Haddock ICES VIIb-k	<i>Melanogrammus aeglefinus</i>	1993-2006	2006	1.37	0.41	no	[?]
ICES European Plaice ICES VIIIf-g	<i>Pleuronectes platessa</i>	1976-2006	2006	0.65	0.41	no	[?]
ICES European Plaice ICES VIIe	<i>Pleuronectes platessa</i>	1975-2006	2006	0.51	1.39	no	[?]
ICES common European sole Celtic Sea	<i>Solea vulgaris</i>	1970-2006	2006	0.90	0.95	no	[?]
ICES common European sole Western English Channel	<i>Solea vulgaris</i>	1968-2006	2006	0.51	1.74	no	[?]
ICES Whiting ICES VIIe-k	<i>Merlangius merlangus</i>	1982-2007	2006	0.44	1.25	no	[?]

Continued on next page

Management Stock ID				Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
IOTC	Bigeye Ocean	tuna	Indian	<i>Thunnus obesus</i>	1957-2006	2004	1.23	0.97	yes	[?]
IPHC	Pacific Pacific	halibut	North	<i>Hippoglossus stenolepis</i>	1988-2009	2008	0.54	2.01	no	[?]
MFish	Australian Zealand	salmon	New	<i>Arripis trutta</i>	1975-2006	2006	1.64	0.33	yes	[?]
MFish	Orange Zealand Coast	roughy	New Mid East	<i>Hoplostethus atlanticus</i>	1981-2004	2004	1.20	0.35	yes	[?]
MFish	Black oreo	West end of		<i>Allocyttus niger</i>	1973-2007	2007	0.99	0.82	yes	[?]
MFish	Smooth oreo	Chatham Rise		<i>Pseudocyttus maculatus</i>	1979-2006	2006	2.25	0.38	yes	[?]
MFish	Smooth oreo	West end of Chatham Rise		<i>Pseudocyttus maculatus</i>	1973-2004	2004	1.25	0.53	yes	[?]
MFish	Hoki Zealand	Eastern	New	<i>Macruronus novaeze-landiae</i>	1972-2007	2007	1.11	0.33	no	[?]
MFish	Hoki Zealand	Western	New	<i>Macruronus novaeze-landiae</i>	1972-2007	2007	0.51	0.57	no	[?]
MFish	New Zealand New Zealand Area 8	snapper		<i>Chrysophrys auratus</i>	1931-2005	2005	0.35	2.50	yes	[?]
MFish	Trevally Areas TRE 7	New Zealand		<i>Pseudocaranx dentex</i>	1944-2005	2005	1.44	0.83	yes	[?]
MFish	Red rock lobster Zealand area CRA1		New	<i>Jasus edwardsii</i>	1945-2001	2001	1.14	0.88	no	[?]
MFish	Red rock lobster Zealand area CRA2		New	<i>Jasus edwardsii</i>	1945-2001	2001	0.53	2.12	no	[?]

Continued on next page

Management Stock ID			Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
MFish	Red rock lobster New Zealand area CRA4		<i>Jasus edwardsii</i>	1945-2005	2005	0.67	1.33	no	[?]
MFish	Red rock lobster New Zealand area CRA5		<i>Jasus edwardsii</i>	1945-2002	2002	0.59	1.68	no	[?]
MFish	Red rock lobster New Zealand area CRA7		<i>Jasus edwardsii</i>	1976-2005	2005	0.73	0.43	no	[?]
MFish	Red rock lobster New Zealand area CRA8		<i>Jasus edwardsii</i>	1976-2005	2005	0.69	0.49	no	[?]
MFish	common gemfish New Zealand		<i>Rexea solandri</i>	1952-2007	2006	1.64	0.43	yes	[?]
MFish	New Zealand ling New Zealand Areas LIN 3 and 4		<i>Genypterus blacodes</i>	1972-2007	2007	3.07	0.09	yes	[?]
MFish	New Zealand ling New Zealand Areas LIN 5 and 6		<i>Genypterus blacodes</i>	1972-2007	2007	3.96	0.10	yes	[?]
MFish	New Zealand ling New Zealand Area LIN 6b		<i>Genypterus blacodes</i>	1980-2006	2006	2.19	0.11	yes	[?]
MFish	New Zealand ling New Zealand Area LIN 72		<i>Genypterus blacodes</i>	1972-2007	2007	2.49	0.32	yes	[?]
MFish	New Zealand ling New Zealand Area LIN 7WC - WCSI		<i>Genypterus blacodes</i>	1972-2008	2008	2.21	0.13	yes	[?]
MFish	Southern blue whiting Campbell Island Rise		<i>Micromesistius australis</i>	1979-2006	2006	1.15	0.92	yes	[?]
MFish	Southern hake Chatham Rise		<i>Merluccius australis</i>	1975-2006	2006	1.77	0.12	yes	[?]

Continued on next page

Management Stock ID	Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
MFish Southern hake Sub-Antarctic	<i>Merluccius australis</i>	1975-2007	2007	2.91	0.11	yes	[?]
MFish New Zealand abalone species New Zealand Area PAU 5A	<i>Haliotis iris</i>	1964-2006	2006	0.72	2.83	no	[?]
MFish New Zealand abalone species New Zealand Area PAU 5B	<i>Haliotis iris</i>	1963-2007	2007	1.02	0.59	no	[?]
MFish New Zealand abalone species New Zealand Area PAU 5D	<i>Haliotis iris</i>	1964-2006	2006	0.44	2.10	no	[?]
MFish New Zealand abalone species New Zealand Area PAU 7	<i>Haliotis iris</i>	1964-2008	2008	0.87	0.94	no	[?]
NAFO American Plaice NAFO-3LNO	<i>Hippoglossoides platesoides</i>	1955-2007	2006	0.08	0.77	no	[?]
NAFO American Plaice NAFO-3M	<i>Hippoglossoides platesoides</i>	1960-2007	2007	0.13	0.00	no	[?]
NAFO Atlantic cod NAFO 3NO	<i>Gadus morhua</i>	1953-2007	2006	0.02	0.27	no	[?]
NAFO Greenland halibut NAFO 23KLMNO	<i>Reinhardtius hippoglossoides</i>	1960-2006	2006	0.39	1.73	no	[?]
NAFO Redfish species NAFO 3LN	<i>Redfish species</i>	1959-2007	2006	1.95	0.01	no	[?]
NAFO Redfish species NAFO 3LN	<i>Redfish species</i>	1959-2008	2008	1.88	0.04	yes	[?]
NAFO Redfish species NAFO 3M	<i>Redfish species</i>	1989-2006	2006	0.93	0.15	no	[?]

Continued on next page

Management Stock ID			Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
NAFO	Yellowtail NAFO 3LNO	Flounder	<i>Limanda ferruginea</i>	1960-2009	2007	1.62	0.15	no	[?]
NMFS	Alaska plaice Sea and Islands	Bering Aleutian	<i>Pleuronectes quadritu-berculatus</i>	1972-2008	2008	2.46	0.07	yes	[?]
NMFS	Arrowtooth der Bering Sea and Aleutian Islands	floun- der	<i>Reinhardtius stomias</i>	1970-2008	2008	1.28	0.31	no	[?]
NMFS	Arrowtooth Gulf of Alaska	flounder	<i>Reinhardtius stomias</i>	1958-2010	2007	1.33	0.28	no	[?]
NMFS	Atka mackerel Sea and Islands	Bering Aleutian	<i>Pleurogrammus monopterygius</i>	1976-2009	2008	1.50	0.55	no	[?]
NMFS	Cabazon Northern Cal- ifornia		<i>Scorpaenichthys marmoratus</i>	1916-2005	2004	0.89	0.99	no	[?]
NMFS	Cabazon Southern Cali- fornia		<i>Scorpaenichthys marmoratus</i>	1932-2005	2004	0.81	0.53	no	[?]
NMFS	Dusky rockfish Alaska	Gulf of	<i>Sebastes variabilis</i>	1973-2008	2007	1.54	0.54	yes	[?]
NMFS	Flathead sole Sea and Islands	Bering Aleutian	<i>Hippoglossoides elassodon</i>	1977-2008	2008	1.66	0.18	no	[?]
NMFS	Greenland Bering Sea and Aleutian Islands	turbot	<i>Reinhardtius hippoglossoides</i>	1960-2009	2009	1.48	0.05	yes	[?]
NMFS	Northern Bering Sea and Aleutian Islands	rockfish	<i>Sebastes polyspinis</i>	1974-2009	2008	1.07	0.13	no	[?]

Continued on next page

Management Stock ID		Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
NMFS	Northern rockfish Gulf of Alaska	<i>Sebastes polyspinis</i>	1959-2008	2008	1.50	0.66	yes	[?]
NMFS	Northern rock sole Eastern Bering Sea and Aleutian Islands	<i>Lepidopsetta polyxystra</i>	1971-2008	2007	3.02	0.21	yes	[?]
NMFS	Pacific cod Bering Sea and Aleutian Islands	<i>Gadus macrocephalus</i>	1964-2008	2007	0.89	0.93	no	[?]
NMFS	Pacific cod Gulf of Alaska	<i>Gadus macrocephalus</i>	1964-2008	2007	1.07	0.84	no	[?]
NMFS	Pacific Ocean perch Eastern Bering Sea and Aleutian Islands	<i>Sebastes alutus</i>	1974-2009	2008	1.70	0.26	no	[?]
NMFS	Pacific ocean perch Gulf of Alaska	<i>Sebastes alutus</i>	1959-2008	2008	1.16	0.73	yes	[?]
NMFS	Red king crab Bristol Bay	<i>Paralithodes camtschaticus</i>	1960-2008	2008	1.27	1.05	yes	[?]
NMFS	Sablefish Eastern Bering Sea / Aleutian Islands / Gulf of Alaska	<i>Anoplopoma fimbria</i>	1956-2008	2008	1.05	0.66	yes	[?]
NMFS	Snow crab Bering Sea	<i>Chionoecetes opilio</i>	1979-2008	2008	0.35	1.49	no	[?]
NMFS	Walleye pollock Aleutian Islands	<i>Theragra chalcogramma</i>	1976-2008	2008	0.86	0.02	yes	[?]
NMFS	Walleye pollock Eastern Bering Sea	<i>Theragra chalcogramma</i>	1963-2008	2008	0.68	0.85	no	[?]
NMFS	Yellowfin sole Bering Sea and Aleutian Islands	<i>Limanda aspera</i>	1959-2008	2008	1.94	0.62	yes	[?]

Continued on next page

Management Stock ID	Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
NMFS Atlantic croaker Mid-Atlantic Coast	<i>Micropogonias undulatus</i>	1973-2002	2002	1.42	0.27	yes	[?]
NMFS Northern shrimp Gulf of Maine	<i>Pandalus borealis</i>	1960-2009	2008	1.58	0.56	no	[?]
NMFS American Plaice NAFO-5YZ	<i>Hippoglossoides platessoides</i>	1960-2008	2007	0.55	0.30	no	[?]
NMFS Bluefish Atlantic Coast	<i>Pomatomus saltatrix</i>	1981-2007	2007	0.81	1.25	no	[?]
NMFS Black sea bass Mid-Atlantic Coast	<i>Centropristis striata</i>	1968-2007	2007	1.21	0.67	no	[?]
NMFS Atlantic cod Georges Bank	<i>Gadus morhua</i>	1960-2008	2007	0.18	0.72	no	[?]
NMFS Atlantic cod Gulf of Maine	<i>Gadus morhua</i>	1893-2008	2007	1.46	0.29	no	[?]
NMFS Haddock NAFO-5Y	<i>Melanogrammus aeglefinus</i>	1956-2008	2007	0.36	1.21	no	[?]
NMFS Monkfish Gulf of Maine / Northern Georges Bank	<i>Lophius americanus</i>	1964-2006	2006	1.73	0.38	no	[?]
NMFS Monkfish Southern Georges Bank / Mid-Atlantic	<i>Lophius americanus</i>	1964-2006	2006	1.72	0.30	no	[?]
NMFS Sea scallop Georges Bank	<i>Placopecten magellanicus</i>	1964-2006	2006	1.59	0.78	no	[?]
NMFS Sea scallop Mid-Atlantic Coast	<i>Placopecten magellanicus</i>	1964-2006	2006	1.00	0.36	no	[?]
NMFS Spiny dogfish Atlantic Coast	<i>Squalus acanthias</i>	1962-2006	2005	1.61	0.15	no	[?]

Continued on next page

Management Stock ID	Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
NMFS Atlantic surfclam Mid-Atlantic Coast	<i>Spisula solidissima</i>	1965-2008	1994	1.85	0.00	no	[?]
NMFS Tilefish Mid-Atlantic Coast	<i>Lopholatilus chamaeleonticeps</i>	1973-2008	2005	0.72	0.61	no	[?]
NMFS Weakfish Atlantic Coast	<i>Cynoscion regalis</i>	1980-2008	2008	0.06	1.49	no	[?]
NMFS White hake Georges Bank / Gulf of Maine	<i>Urophycis tenuis</i>	1963-2007	2007	0.35	0.80	yes	[?]
NMFS Winter Flounder NAFO-5Z	<i>Pseudopleuronectes americanus</i>	1982-2007	2006	1.41	0.25	no	[?]
NMFS Winter Flounder Southern New England-Mid Atlantic	<i>Pseudopleuronectes americanus</i>	1940-2007	2007	0.17	1.10	no	[?]
NMFS Witch Flounder NAFO-5Y	<i>Glyptocephalus cynoglossus</i>	1982-2008	2007	0.30	1.45	yes	[?]
NMFS Yellowtail flounder Cape Cod / Gulf of Maine	<i>Limanda ferruginea</i>	1935-2008	2007	0.25	1.73	yes	[?]
NMFS Yellowtail flounder Georges Bank	<i>Limanda ferruginea</i>	1935-2008	2007	0.22	1.14	yes	[?]
NMFS Yellowtail Flounder Southern New England-Mid Atlantic	<i>Limanda ferruginea</i>	1935-2008	2007	0.13	1.61	yes	[?]
NMFS Atlantic menhaden Atlantic	<i>Brevoortia tyrannus</i>	1940-2005	2005	0.47	0.97	no	[?]
NMFS Pacific sardine North Pacific	<i>Sardinops sagax</i>	1981-2008	2006	1.73	0.37	no	[?]

Continued on next page

Management Stock ID	Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
NMFS Arrowtooth flounder Pacific Coast	<i>Reinhardtius stomias</i>	1916-2007	2007	3.81	0.21	yes	[?]
NMFS Blackgill rockfish Pacific Coast	<i>Sebastes melanostomus</i>	1950-2005	2004	0.80	1.20	no	[?]
NMFS Black rockfish Northern Pacific Coast	<i>Sebastes melanops</i>	1914-2006	2006	1.37	0.57	no	[?]
NMFS Black rockfish Southern Pacific Coast	<i>Sebastes melanops</i>	1915-2007	2007	2.23	0.33	yes	[?]
NMFS Blue rockfish California	<i>Sebastes mystinus</i>	1916-2007	2007	0.75	1.19	yes	[?]
NMFS Bocaccio Southern Pacific Coast	<i>Sebastes paucispinis</i>	1951-2006	2006	0.32	0.10	yes	[?]
NMFS Chilipepper Southern Pacific Coast	<i>Sebastes goodei</i>	1892-2007	2006	1.43	0.04	no	[?]
NMFS Cowcod Southern California	<i>Sebastes levis</i>	1900-2007	2007	0.09	0.07	yes	[?]
NMFS Canary rockfish Pacific Coast	<i>Sebastes pinniger</i>	1916-2007	2007	0.85	0.02	yes	[?]
NMFS Darkblotched rockfish Pacific Coast	<i>Sebastes crameri</i>	1928-2007	2007	0.73	0.31	yes	[?]
NMFS English sole Pacific Coast	<i>Parophrys vetulus</i>	1876-2007	2006	2.06	0.14	no	[?]
NMFS Longnose skate Pacific Coast	<i>Raja rhina</i>	1915-2007	2007	1.56	0.40	no	[?]
NMFS Longspine thornyhead Pacific Coast	<i>Sebastolobus altivelis</i>	1962-2005	2005	2.65	0.23	yes	[?]
NMFS Pacific hake Pacific Coast	<i>Merluccius productus</i>	1966-2008	2008	1.61	0.73	yes	[?]

Continued on next page

Management Stock ID		Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
NMFS	Pacific ocean perch Pacific Coast	<i>Sebastes alutus</i>	1953-2007	2007	0.69	0.00	yes	[?]
NMFS	Petrale sole Northern Pacific Coast	<i>Eopsetta jordani</i>	1910-2005	2004	0.96	1.26	no	[?]
NMFS	Petrale sole Southern Pacific Coast	<i>Eopsetta jordani</i>	1874-2005	2004	0.63	0.61	no	[?]
NMFS	Sablefish Pacific Coast	<i>Anoplopoma fimbria</i>	1900-2007	2007	0.84	1.09	no	[?]
NMFS	Shortspine thornyhead Pacific Coast	<i>Sebastolobus alascanus</i>	1901-2005	2004	1.55	0.93	no	[?]
NMFS	Widow rockfish Pacific Coast	<i>Sebastes entomelas</i>	1955-2006	2006	0.91	0.07	no	[?]
NMFS	Yelloweye rockfish Pacific Coast	<i>Sebastes ruberrimus</i>	1923-2006	2006	0.38	0.34	no	[?]
NMFS	Yellowtail rockfish Northern Pacific Coast	<i>Sebastes flavidus</i>	1967-2005	2005	0.75	0.51	no	[?]
NMFS	Gag Gulf of Mexico	<i>Mycteroperca microlepis</i>	1963-2004	2004	1.00	2.44	yes	[?]
NMFS	Gag Southern Atlantic coast	<i>Mycteroperca microlepis</i>	1962-2005	2005	0.94	1.31	yes	[?]
NMFS	Greater amberjack Gulf of Mexico	<i>Seriola dumerili</i>	1986-2004	2004	0.46	1.52	no	[?]
NMFS	King mackerel Gulf of Mexico	<i>Scomberomorus cavalla</i>	1992-2001	2001	1.51	0.44	no	[?]
NMFS	King mackerel Southern Atlantic Coast	<i>Scomberomorus cavalla</i>	1981-2001	2001	1.38	0.56	no	[?]
NMFS	Gulf menhaden Gulf of Mexico	<i>Brevoortia patronus</i>	1964-2004	2004	1.08	0.48	no	[?]

Continued on next page

Management Stock ID			Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
NMFS	Red grouper	Gulf of Mexico	<i>Epinephelus morio</i>	1986-2005	2005	1.00	0.88	no	[?]
NMFS	Red porgy	Southern Atlantic coast	<i>Pagrus pagrus</i>	1972-2004	2004	0.61	0.39	yes	[?]
NMFS	Snowy grouper	Southern Atlantic coast	<i>Epinephelus niveatus</i>	1961-2002	2002	0.19	3.08	yes	[?]
NMFS	Spanish mackerel	Southern Atlantic Coast	<i>Scomberomorus maculatus</i>	1950-2008	2007	0.38	0.91	yes	[?]
NMFS	Tilefish	Southern Atlantic coast	<i>Lopholatilus chamaeleonticeps</i>	1961-2002	2002	0.94	1.55	yes	[?]
NMFS	Vermilion snapper	Southern Atlantic coast	<i>Rhomboplites aurubens</i>	1946-2008	2007	0.86	1.27	yes	[?]
NMFS	Yellowtail snapper	Southern Atlantic Coast and Gulf of Mexico	<i>Ocyurus chrysurus</i>	1962-2001	2001	1.14	0.61	yes	[?]
NMFS	Dover sole	Pacific Coast	<i>Microstomus pacificus</i>	1910-2005	2004	1.33	0.45	no	[?]
NMFS	Gopher rockfish	Southern Pacific Coast	<i>Sebastes carnatus</i>	1965-2005	2004	0.88	0.62	no	[?]
NMFS	Pacific sardine	Pacific Coast	<i>Sardinops sagax</i>	1981-2007	2006	1.36	0.41	no	[?]
NMFS	Starry flounder	Northern Pacific Coast	<i>Platichthys stellatus</i>	1970-2005	2004	0.68	0.33	no	[?]
NMFS	Starry flounder	Southern Pacific Coast	<i>Platichthys stellatus</i>	1970-2005	2004	1.15	0.12	no	[?]
RFFA	Walleye pollock	Northern Sea of Okhotsk	<i>Theragra chalcogramma</i>	1985-1994	1992	1.11	0.87	no	[?]

Continued on next page

Management Stock ID		Scientific name	Timespan	Current year	B ratio	U ratio	From assessment	Ref.
RFFA	Walleye pollock West- ern Bering Sea	<i>Theragra chalcogramma</i>	1994-2004	2004	2.16	0.26	no	[?]
SPRFMO	Chilean jack mackerel Chilean EEZ and off- shore	<i>Trachurus murphyi</i>	1975-2007	2006	0.52	1.20	no	[?]
US State	American lobster Rhode Island	<i>Homarus americanus</i>	1959-2007	2006	0.53	0.67	no	[?]
US State	Tautog Rhode Island	<i>Tautoga onitis</i>	1959-2007	2006	0.84	0.59	no	[?]
US State	Winter flounder Rhode Island	<i>Pseudopleuronectes americanus</i>	1959-2007	2006	0.25	1.59	no	[?]
WCPFC	Albacore tuna South Pacific Ocean	<i>Thunnus alalunga</i>	1959-2006	2006	2.46	0.90	yes	[?]
WCPFC	Bigeye tuna Western Pacific Ocean	<i>Thunnus obesus</i>	1952-2006	2006	1.06	1.38	yes	[?]
WCPFC	Skipjack tuna Central Western Pacific	<i>Katsuwonus pelamis</i>	1972-2006	2006	4.38	0.30	yes	[?]
WCPFC	Yellowfin tuna Central Western Pacific	<i>Thunnus albacares</i>	1952-2005	2005	1.22	0.80	yes	[?]

Table 1: Summary of the assessments used in this analysis and their estimated ratios of current biomass to the biomass at maximum sustainable yield and current harvest rate to the harvest rate that results in maximum sustainable yield. The estimated ratios were preferentially obtained directly from the assessment document or derived from surplus production model fits. When both an SSB_{msy} and B_{msy} reference points are available, the SSB is chosen preferentially.

References

- [1] Sally Wayte and NULL. Assessment of cascades orange roughy. Technical report, Hobart, Australia, 2006.
- [2] Caleb Gardner, NULL, Phillippe Ziegler, and Malcolm Haddon. Tasmanian giant crab fishery - 2006/07. Technical report, NULL, 2008.
- [3] Claudio Buratti, Jorge Hansen, and David Garciarena. Análisis estacional de cohortes 1990 - 2007 de la población de anchoíta (*engraulis anchoita*) al norte de 41°s, y estimación de una captura biológicamente aceptable durante el año 2008. Technical report, Mar del Plata, Argentina, 2008.
- [4] David Garciarena, Claudio Buratti, and Jorge Hansen. Modelo de producción estructurado por edades y capturas biológicamente aceptables de anchoíta (*engraulis anchoita*) al sur de 41°s estimadas para el año 2008. Technical report, Mar del Plata, Argentina, 2008.
- [5] Marta Renzi and Gabriela Irusta. Technical report, Mar del Plata, Argentina, 2007.
- [6] Gabriela Irusta and Marta Renzi. Technical report, Mar del Plata, Argentina, 2009.
- [7] Otto Wöhler and Analia Giussi. Evaluación de la abundancia de merluza de cola (*macruronus magellanicus*) en el atlántico sudoccidental. período 1985-2006. Technical report, Mar del Plata, Argentina, 2007.
- [8] R. A. Rademeyer. Development of a new baseline assessment for the south african hake resource, incorporating catch-at-length information. Technical report.
- [9] Johnston SJ and Butterworth DS. The south african horse mackerel assessment for 2007 using an age-structured production model, with future biomass projections. Technical report.
- [10] A. Brandao. Updated assessment of the south african kingklip resource including an initial attempt at including catch-at-length data. Technical report.
- [11] Butterworth DS and Cunningham CL. Base case assessment of the south african sardine resource. Technical report.
- [12] Butterworth DS and Johnston SJ. Near final specifications for the sex- and area-specific operating models for testing omps for the south coast rock lobster resource. Technical report.
- [13] L. O'Brien, B. Hatt, and J. J. Hunt. Population status of eastern georges bank cod (unit areas 5zj,m) for 1978-2004. Technical report, Canada, 2003.

- [14] R. K. Mohn, G. E. Simon, G. A. P. Black, P. C. F. Hurley, and P. A. Comeau. Assessment of the status of nafo division 4x/5y haddock in 2003. Technical report, Canada, 2003.
- [15] Jon Brodziak, Stratis Gavaris, and L. Van Eeckhaute. Assessment of haddock on eastern georges bank. Technical report, Canada, 2003.
- [16] J. Bratney, B. P. Healey, G. R. Lilly, and E. F. Murphy. An assessment of the cod (*gadus morhua*) stock in nafo divisions 2j3kl in april 2006. Technical report, Canada, 2006.
- [17] B. P. Healey, J.-C. Mahé, P. F. Shelton, E. F. Murphy, N. G. Cadigan, J. Bratney, and G. R. Lilly. Assessment of the cod (*gadus morhua*) stock in nafo subdivision 3ps in october 2004. Technical report, Canada, 2004.
- [18] Jeff Fargo. Flatfish stock assessments for the west coast of canada and recommended yield options for 2000. Technical report, 1999.
- [19] Heath Stone, Donald Clark, and Peter Perley. 2006 assessment of pollock in 4vwx and 5zc. Technical report, Canada, 2006.
- [20] Johanne Gauthier, Alain Fréchet, Hugo Bourdages, Coralie Tournois, Jason Spingle, Frank Collier, Monty Way, and Philippe Schwab. The status of cod in the northern gulf of st. lawrence (3pn, 4rs) in 2006. Technical report, Canada, 2007.
- [21] L. Savoie, G. A. Poirier, L. G. Currie, G. A. Chouinard, D. Daigle, T. Hurlbut, and D. P. Swain. Assessment of the southern gulf of st. lawrence cod stock, march 2007. Technical report, Canada, 2007.
- [22] Report of the 2007 iccat bigeye tuna stock assessment session. Technical report, 2008.
- [23] Report of the 2008 iccat yellowfin and skipjack stock assessments meeting. Technical report, 2008.
- [24] NULL. 2007 mediterranean swordfish stock assessment session. Technical report, NULL, 2007.
- [25] Report of the 2006 atlantic swordfish stock assessment session. Technical report, 2007.
- [26] Report of the 2008 iccat yellowfin and skipjack stock assessments meeting. Technical report, 2008.
- [27] Anon. Report of the arctic fisheries working group (afwg). Technical report, 2007.
- [28] Anon. Report of the arctic fisheries working group (afwg). Technical report, 2007.

- [29] Anon. Report of the herring assessment working group south of 62n (hawg). Technical report, 2007.
- [30] Anon. Report of the north-western working group (nwwg). Technical report, 2007.
- [31] Anon and NULL. Report of the baltic fisheries assessment working group. Technical report, Copenhagen, 2007.
- [32] NULL and Anon. Report of the working group on the assessment of southern shelf stocks of hake, monk and megrim. Technical report, Copenhagen, 2007.
- [33] Anon and NULL. Report of the working group on the assessment of mackerel, horse mackerel, sardine and anchovy (wgmhsa). Technical report, Copenhagen, 2007.
- [34] Anon and NULL. Report of the working group on northern pelagic and blue whiting fisheries (wgnpbw). Technical report, Copenhagen, 2007.
- [35] Anon. Report of the working group on the assessment of northern shelf demersal stocks (wgnsds). Technical report, 2007.
- [36] Anon and NULL. Report of the working group on the assessment of demersal stocks in the north sea and skagerrak (wgnsk). Technical report, Copenhagen, 2007.
- [37] NULL and Anon. Report of the working group on the assessment of southern shelf demersal stocks (wgssds). Technical report, Copenhagen, 2007.
- [38] Report of the tenth session of the scientific committee. Technical report, 2007.
- [39] Steven Hare and William Clark. Assessment of the pacific halibut stock at the end of 2008. Technical report, Seattle, WA, 2009.
- [40] R. I. C. C. Francis. Assessment of hoki (*macruronus novaezelandiae*) in 2007, 2008.
- [41] M. J. Morgan, B. P. Healey, W. B. Brodie, D. Maddock Parsons, and K. S. Dwyer. An assessment of american plaice in nafo div. 3lno. Technical report, 2007.
- [42] A. M. Avila de Melo and R. Alpoim. An assessment of american plaice (*hippoglossoides platessoides*) in nafo division 3m. Technical report, 2008.
- [43] J. Bratney, E. F. Murphy, and M. J. Morgan. An assessment of the cod stock in nafo divisions 3no. Technical report, 2007.
- [44] J.-C. Mahé and B. P. Healey. An assessment of greenland halibut (*reinhardtius hippoglossoides*) in nafo subarea 2 and divisions 3klmno. Technical report, St. John's, Newfoundland, Canada, 2007.

- [45] R. Alpoim, A. M. Àvila de Melo, R. Duarte, and D. Power. An aspic based assessment of redfish in nafo divisions 3ln. Technical report, Lisboa, Portugal, 2007.
- [46] A. M. Àvila de Melo, D. Power, R. Alpoim, and R. Duarte. A revised aspic based assessment of redfish in nafo divisions 3ln. Technical report, 2008.
- [47] R. Alpoim, A. M. Àvila de Melo, and F. Saborido-Rey. An xsa based assessment of beaked redfish (*s. mentella* and *s. fasciatus*) in nafo division 3m. Technical report, Lisboa, Portugal, 2007.
- [48] W. B. Brodie, D. M. Parsons, M. J. Morgan, and D. Power. The 2008 assessment of the grand bank yellowtail flounder stock, nafo divisions 3lno. Technical report, St. John's, Newfoundland, Canada, 2008.
- [49] 2008.
- [50] Northeast Fisheries Science Center. Ne regional stock assessment workshop (41st saw). Technical report, Woods Hole, Massachusetts, 2006.
- [51] Northeast Data Poor Working Group. The northeast data poor stocks working group report. december 8-12, 2008 meeting part a. Technical report, Woods Hole, Massachusetts, 2009.
- [52] Northeast Fisheries Science Center. Assessment of 19 northeast groundfish stocks through 2007: Report of the 3rd groundfish assessment review meeting (garm iii),. Technical report, Woods Hole, Massachusetts, 2008.
- [53] Northeast Fisheries Science Center. Assessment of 19 northeast groundfish stocks through 2007: Report of the 3rd groundfish assessment review meeting (garm iii),. Technical report, Woods Hole, Massachusetts, 2008.
- [54] Northeast Fisheries Science Center. Assessment of 19 northeast groundfish stocks through 2007: Report of the 3rd groundfish assessment review meeting (garm iii),. Technical report, Woods Hole, Massachusetts, 2008.
- [55] Northeast Fisheries Science Center. Monkfish assessment report for 2007. Technical report, Woods Hole, Massachusetts, 2007.
- [56] Northeast Fisheries Science Center. Monkfish assessment report for 2007. Technical report, Woods Hole, Massachusetts, 2007.
- [57] Northeast Fisheries Science Center. 45th northeast regional stock assessment workshop (45th saw) 45th saw assessment report. Technical report, Woods Hole, Massachusetts, 2007.
- [58] Northeast Fisheries Science Center. 43rd northeast regional stock assessment workshop (43rd saw). Technical report, Woods Hole, Massachusetts, 2006.

- [59] Northeast Fisheries Science Center. 44th northeast regional stock assessment workshop (44th saw) 44th saw assessment report. Technical report, Woods Hole, Massachusetts, 2007.
- [60] Northeast Fisheries Science Center. Northeast regional stock assessment workshop (41st saw). Technical report, Woods Hole, Massachusetts, 2005.
- [61] Northeast Regional Stock Assessment Workshop. 48th northeast regional stock assessment workshop (48th saw) - assessment summary report. Technical report, 2009.
- [62] Northeast Fisheries Science Center. Assessment of 19 northeast groundfish stocks through 2007: Report of the 3rd groundfish assessment review meeting (garm iii),. Technical report, Woods Hole, Massachusetts, 2008.
- [63] Lisa Hendrickson. Assessment of 19 northeast groundfish stocks through 2007: Report of the 3rd groundfish assessment review meeting (garm iii),. Technical report, Woods Hole, Massachusetts, 2008.
- [64] Northeast Fisheries Science Center. Assessment of 19 northeast groundfish stocks through 2007. Technical report, Woods Hole, Massachusetts, 2008.
- [65] Northeast Fisheries Science Center. Assessment of 19 northeast groundfish stocks through 2007: Report of the 3rd groundfish assessment review meeting (garm iii),. Technical report, Woods Hole, Massachusetts, 2008.
- [66] Northeast Fisheries Science Center. Assessment of 19 northeast groundfish stocks through 2007: Report of the 3rd groundfish assessment review meeting (garm iii),. Technical report, Woods Hole, Massachusetts, 2008.
- [67] Northeast Fisheries Science Center. Assessment of 19 northeast groundfish stocks through 2007: Report of the 3rd groundfish assessment review meeting (garm iii),. Technical report, Woods Hole, Massachusetts, 2008.
- [68] NA. 2006 stock assessment report for atlantic menhaden. Technical report, 2006.
- [69] NULL and Ian J. Stewart. Status of the u.s. canary rockfish resource in 2007. Technical report, NULL, 2007.
- [70] Ian J. Stewart. Updated u.s. english sole stock assessment: status of the resource in 2007. Technical report, 2007.
- [71] Ian J. Stewart, Thomas E. Helser, and Owen S. Hamel. Stock assessment of pacific hake, *Merluccius productus*, (a.k.a. whiting) in u.s. and canadian waters in 2008. Technical report, 2008.
- [72] Schirripa MJ. Status of the sablefish resource off the continental u.s. pacific coast in 2007. Technical report, 2007.

- [73] Dick EJ Field JC Ralston S. MacCall AD Pearson DE and He X. Status of the widow rockfish resource in 2007: an update. Technical report, 2007.
- [74] Wallace GR. Update to the status of yelloweye rockfish (*sebastes ruberrimus*) off the u.s. west coast in 2007. Technical report, 2007.
- [75] Technical report, 2007.
- [76] NULL. Null. Technical report, NULL, 2006.
- [77] NULL. Null. Technical report, NULL, 2006.
- [78] NULL, Kyle Shertzer, Joseph Smith, and Douglas Vaughan. Null: Fishery characteristics and biological reference points for management. Technical report, NULL, 2004.
- [79] NULL. Null. Technical report, NULL, 2006.
- [80] Technical report, 2006.
- [81] Technical report, 2008.
- [82] Beverly J. Macewicz, Christina Show, Emmanis Dorval, Nancy C. H. Lo, Roberto Felix-Uraga, and Kevin T. Hill. Assessment of the pacific sardine resource in 2007 for u.s. management in 2008. Technical report, La Jolla, CA, 2007.
- [83] J. Janusz and J. Horbowy. The state of the walleye pollock in the northern part of the okhotsk sea, north pacific. *Fisheries Research*, 30, 1997.
- [84] D. A. Vasilyev. Preliminary navarin walleye pollock (*theragra chalcogramma*) stock assesment. Technical report, 2004.
- [85] Cristian Canales and Rodolfo Serra. Updated status of the chilean jack mackerel stock. Technical report, 2008.
- [86] Simon Hoyle, John Hampton, and Adam Langley. Stock assessment of albacore tuna in the south pacific ocean. Technical report, 2008.
- [87] John Hampton, Simon Hoyle, Pierre Kleiber, and Adam Langley. Stock assessment of bigeye tuna in the western and central pacific ocean, including an analysis of management options. Technical report, 2008.
- [88] Adam Langley and John Hampton. Stock assessment of skipjack tuna in the western and central pacific ocean. Technical report, 2008.
- [89] Pierre Kleibert, John Hampton, Adam Langley, and Simon Hoyle. Stock assessment of yellowfin tuna in the western and central pacific ocean, including an analysis of management options. Technical report, 2007.