# Summary contents of the RAM II stock-recruitment database

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# Chapter 1

# Introduction

In 1995 Ransom A. Myers and colleagues first published a summary of their newly compiled worldwide database of stock-recruitment data for marine species (Myers, R. A., J. Bridson, and N.J. Barrowman. 1995. Summary of Worldwide Spawner and Recruitment Data. Can. Tech. Rep. Fish. Aquat. Sci.2020: iv + 327 p.). This database has since been used in a large number of publications, leading to important advances in fisheries science and ecology (please refer to the following URL for a list of Dr. Myers' publications: http://as01.ucis.dal.ca/ramweb/content.php?lang=en&i=4&sub=0). Increasingly, however, analyses became limited by the lack of updating for many of the stocks, providing potentially an outdated picture of the status of marine fisheries.

DISCLAIMER: This database is under development and the stocks that appear here are only those that have passed the Quality Assurance and Quality Control (QAQC) process.

The current database details can be accessed by NCEAS group members at the following URL: http://www.marinebiodiversity.ca/RAMlegacy/srdb

# 1.1 Contacts

For further information about the databse design, its content and how to access it, please contact:

- $\bullet$  Julia Baum, Email: juliakbaum@gmail.com, Phone: +1 858-822-5912 (W); +1 858 752-0633 (cell)
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- Olaf Jensen, Email: ojensen@u.washington.edu, Phone: +1 410-812-4842

Chapter 2

Summary plots

# 2.1 Beryciformes

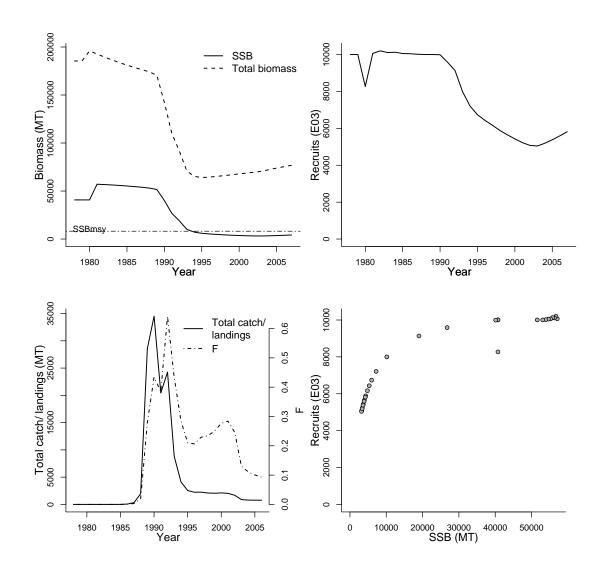
# 2.1.1 Trachichthyidae

### Hoplostethus atlanticus - Orange roughy

### ID: CSIRO-OROUGHYSESSF-1978-2007-FULTON

Orange roughy Southeast Australia

stock assessment conducted: Stock Synthesis v2.0 model



# 2.2 Clupeiformes

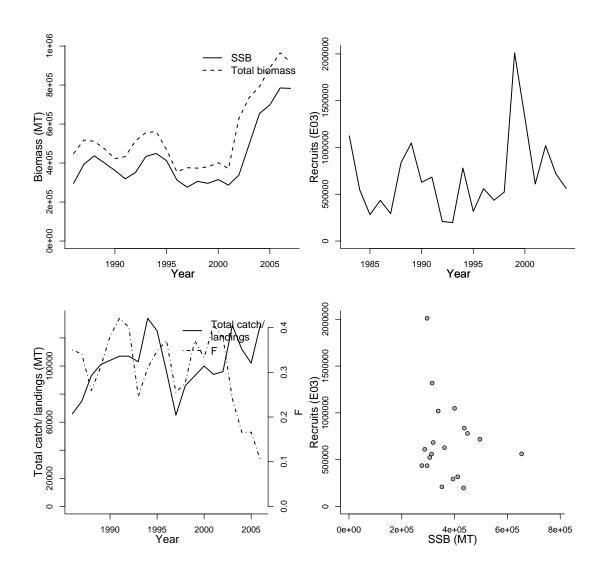
# 2.2.1 Clupeidae

### Clupea harengus - Herring

ID: WGBFAS-HERRIsum-1983-2007-JENNINGS

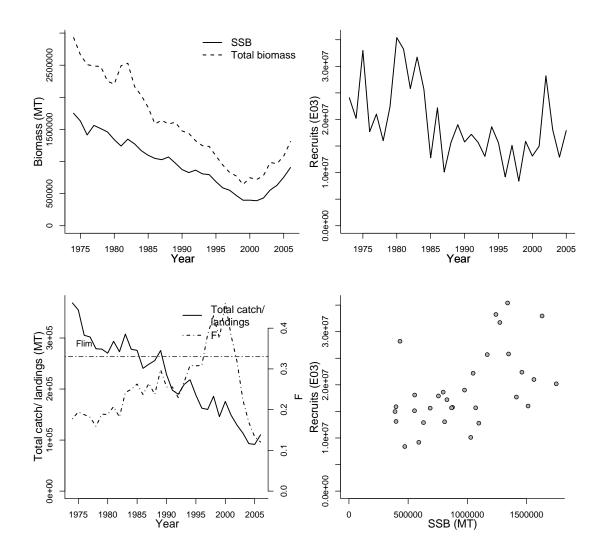
Herring Iceland (Summer spawners)

stock assessment conducted: VPA/ADPAT version 2.3.2 NOAA Fisheries



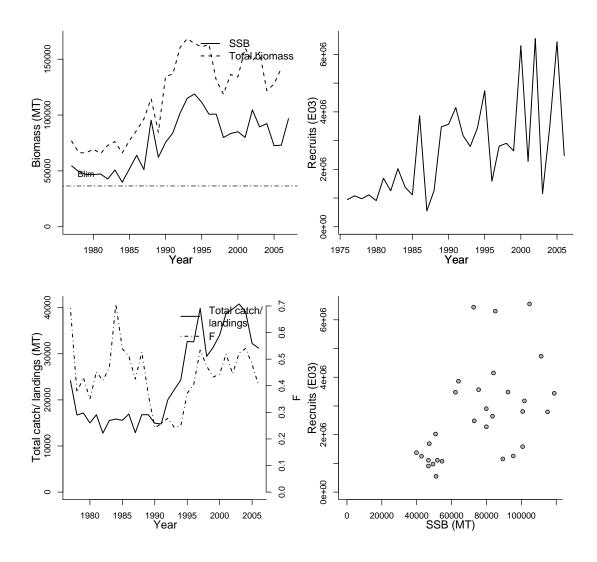
ID: WGBFAS-HERR2532-1973-2006-JENNINGS

Herring ICES 25-32



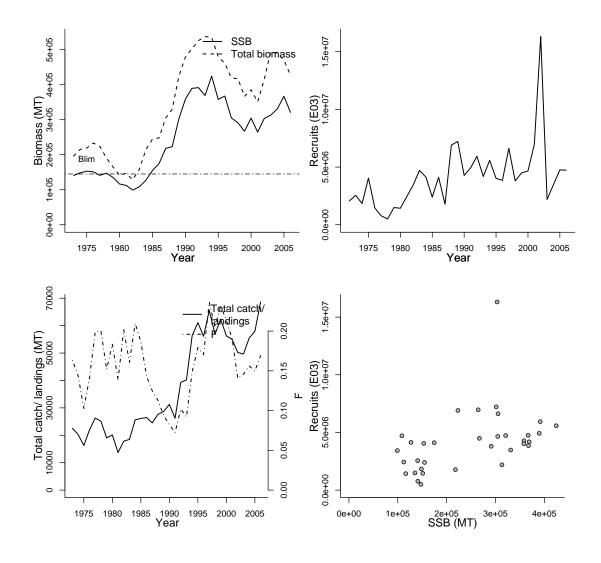
# ID: WGBFAS-HERRRIGA-1976-2007-JENNINGS

Herring ICES 28



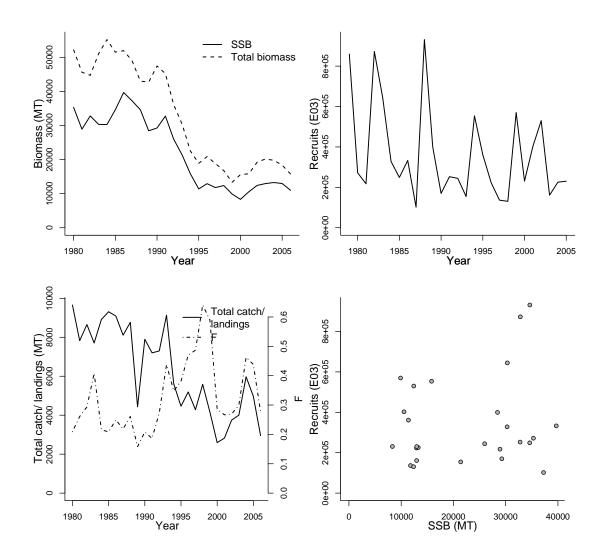
# ID: WGBFAS-HERR30-1972-2007-JENNINGS

Herring ICES 30



# ID: WGBFAS-HERR31-1979-2006-JENNINGS

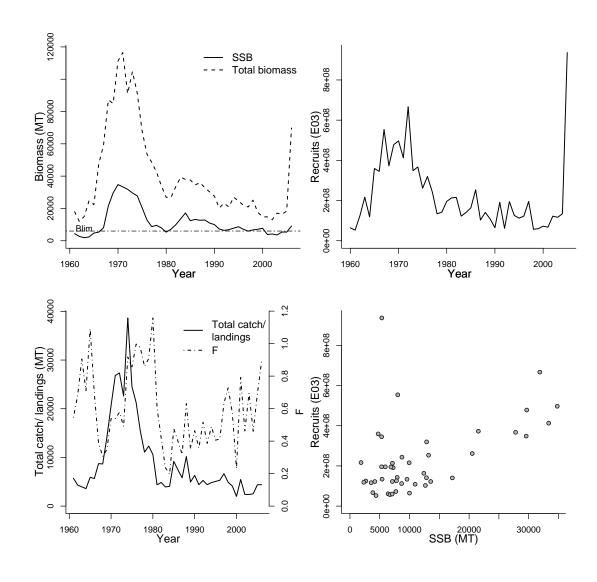
Herring ICES 31



# ID: HAWG-HERRNIRS-1960-2006-JENNINGS

Herring Northern Irish Sea

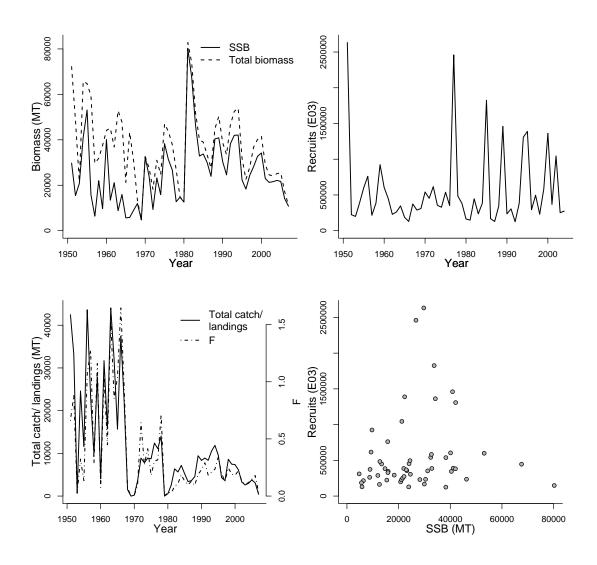
stock assessment conducted: Integrated Catch-at-age Analysis



### ID: DFO-PAC-HERRCC-1951-2007-COLLIE

Pacific herring Central Coast

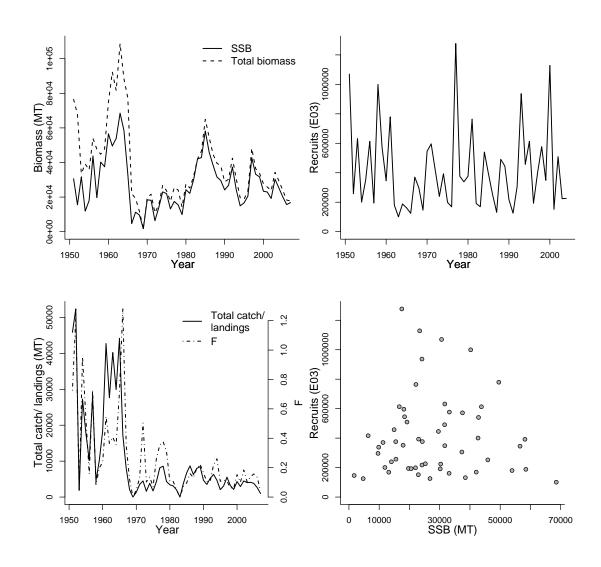
stock assessment conducted: an AD-Model builder statistical Catch at Age Model



### ID: DFO-PAC-HERRPRD-1951-2007-COLLIE

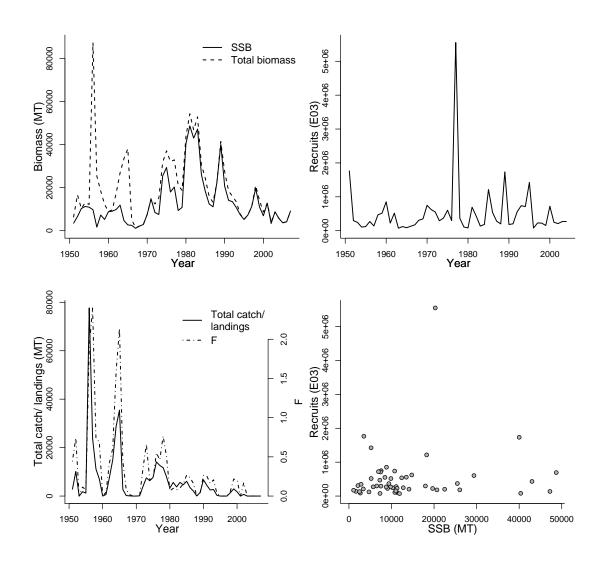
Pacific herring Prince Rupert District

stock assessment conducted: an AD-Model builder statistical Catch at Age Model



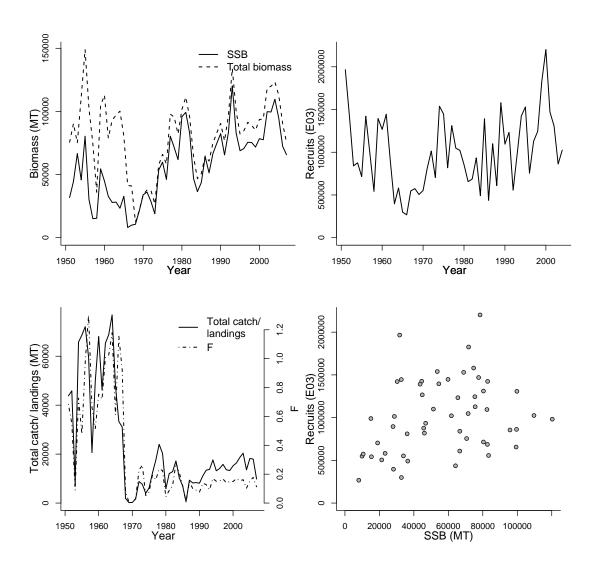
### ID: DFO-PAC-HERRQCI-1951-2007-COLLIE

Pacific herring Queen Charlotte Islands stock assessment conducted: an AD-Model builder statistical Catch at Age Model



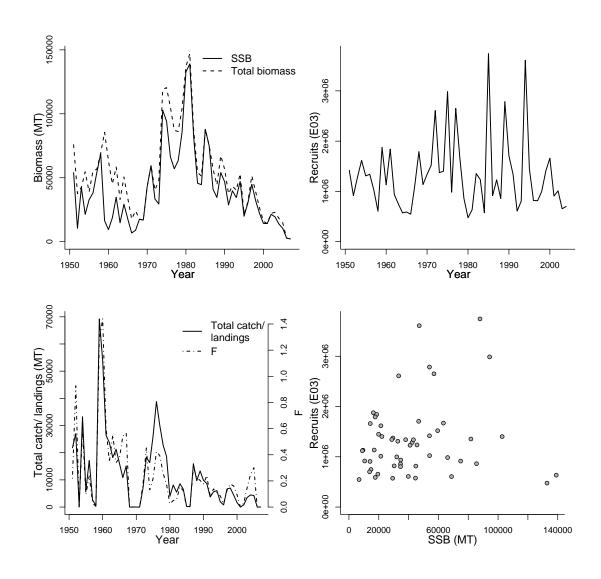
### ID: DFO-PAC-HERRSOG-1951-2007-COLLIE

Pacific herring Straight of Georgia stock assessment conducted: an AD-Model builder statistical Catch at Age Model



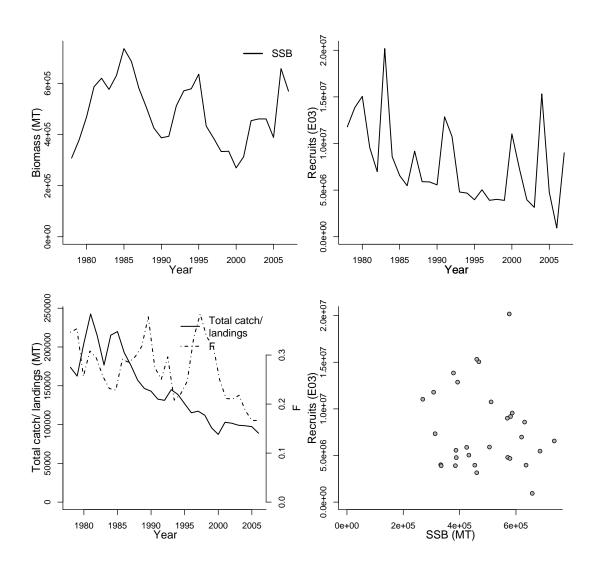
### ID: DFO-PAC-HERRWCVANI-1951-2007-COLLIE

Pacific herring West Coast of Vancouver Island stock assessment conducted: an AD-Model builder statistical Catch at Age Model



### Sardina pilchardus - European pilchard

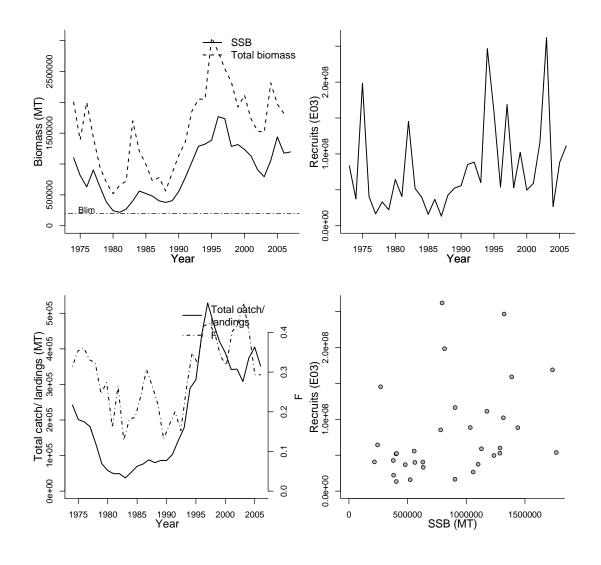
ID: WGMHSA-SARDPVIIIc-IXa-1978-2007-JENNINGS European pilchard ICES VIIIc-IXa stock assessment conducted: a flexible age structured model



### Sprattus sprattus - Sprat

ID: WGBFAS-SPRAT22-32-1973-2007-JENNINGS

Sprat ICES Baltic Areas 22-32



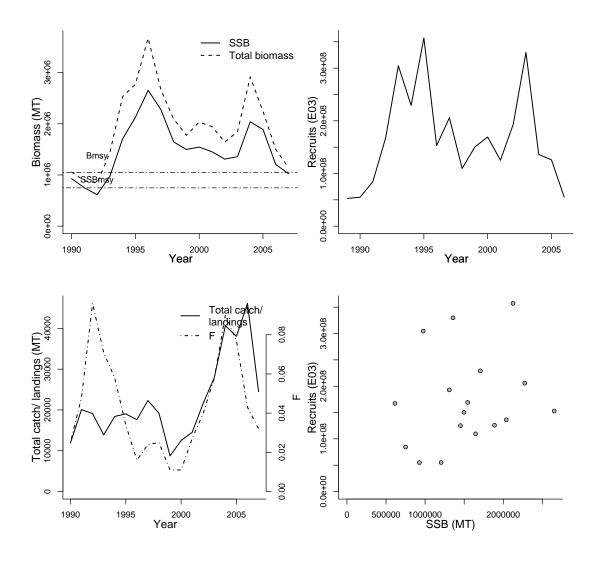
# 2.2.2 Engraulidae

### Engraulis anchoita - Argentine anchoita

#### ID: INIDEP-ARGANCHONARG-1989-2007-Parma

Argentine anchoita Northern Argentina

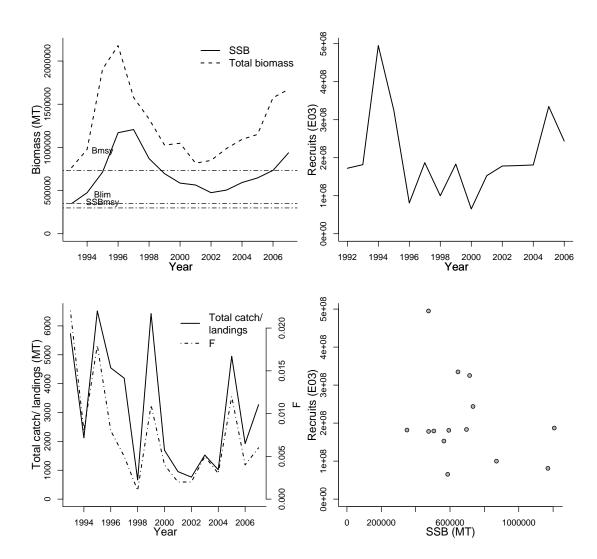
stock assessment conducted: A general approach to fitting VPA models. ADAPT is based on minimising the sum-of-squares over any number of indices of abundance to find best-fit parameters.



# Engraulis anchoita - Argentine anchoita

### ID: INIDEP-ARGANCHOSARG-1992-2007-Parma

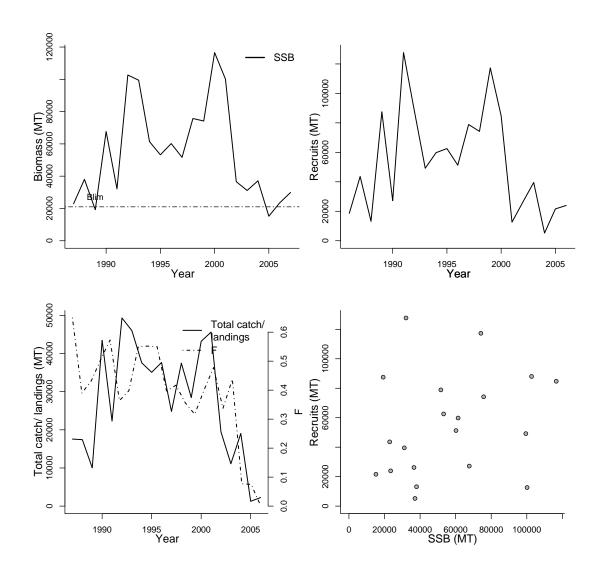
Argentine anchoita Southern Argentina stock assessment conducted: Age-structured surplus production model



# Engraulis encrasicolus - Anchovy

# ID: WGMHSA-ANCHOBAYB-1986-2007-JENNINGS Anchovy ICES VIII

stock assessment conducted: Bayesian Biomass Model



# 2.3 Decapoda

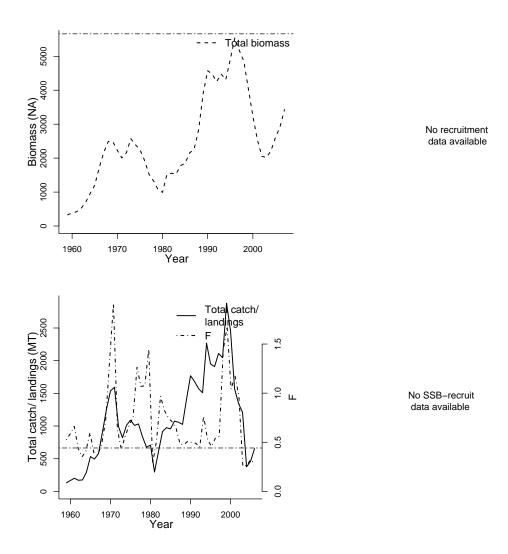
# 2.3.1 Nephropidae

#### Homarus americanus - American lobster

#### ID: RIDEM-LOBSTERRI-1959-2007-COLLIE

American lobster Rhode Island

stock assessment conducted: Age-aggregated surplus production model



# 2.4 Gadiformes

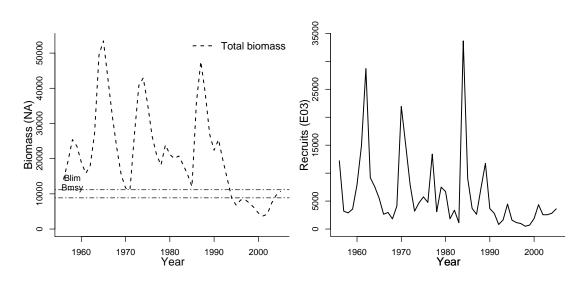
# 2.4.1 Gadidae

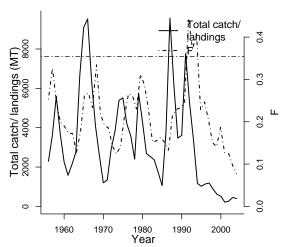
# Gadus macrocephalus - Pacific cod

ID: DFO-PAC-PCODHS-1956-2005-COLLIE

Pacific cod Hecate Strait

stock assessment conducted: Delay difference model



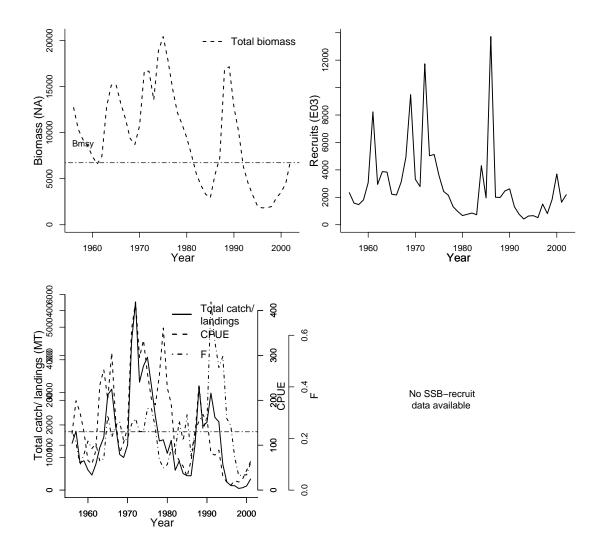


No SSB-recruit data available

# Gadus macrocephalus - Pacific cod

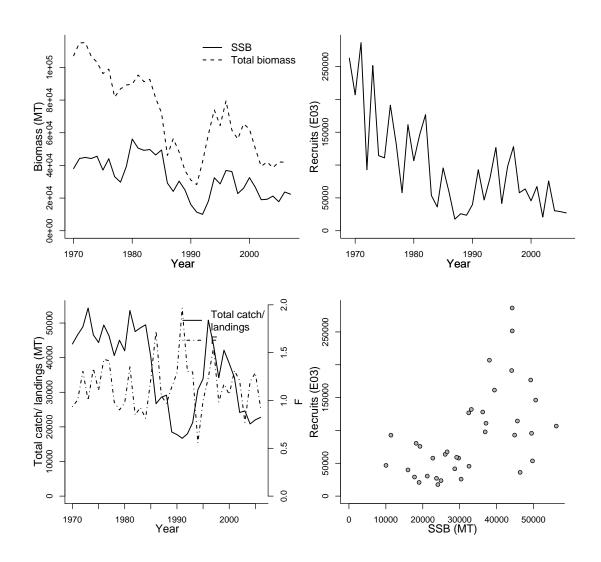
# ID: DFO-PAC-PCODWCVANI-1956-2002-COLLIE

Pacific cod West Coast of Vancouver Island stock assessment conducted: Delay difference model



#### Gadus morhua - Atlantic cod

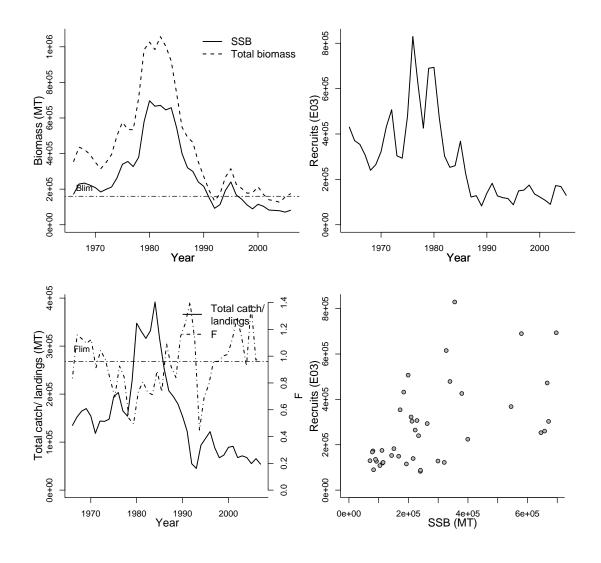
ID: WGBFAS-CODBA2224-1969-2007-JENNINGS Atlantic cod Baltic Areas 22 and 24 stock assessment conducted: Extended Survivor Analysis



#### Gadus morhua - Atlantic cod

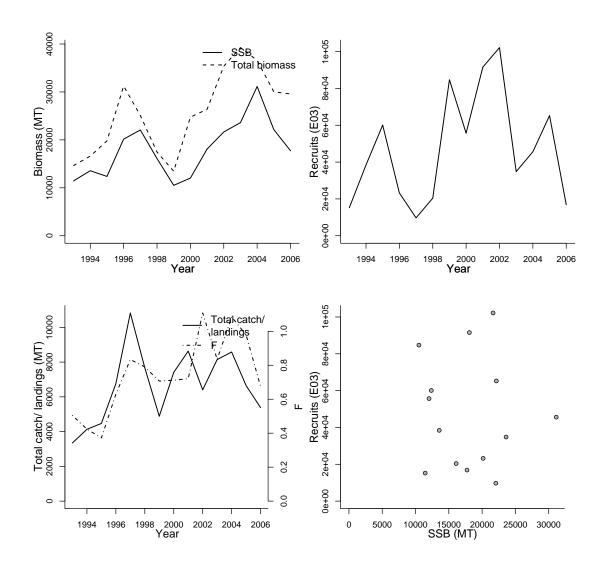
 $ID: WGBFAS\text{-}CODBA2532\text{-}1964\text{-}2007\text{-}JENNINGS}$ 

Atlantic cod Baltic Areas 25-32



### Melanogrammus aeglefinus - Haddock

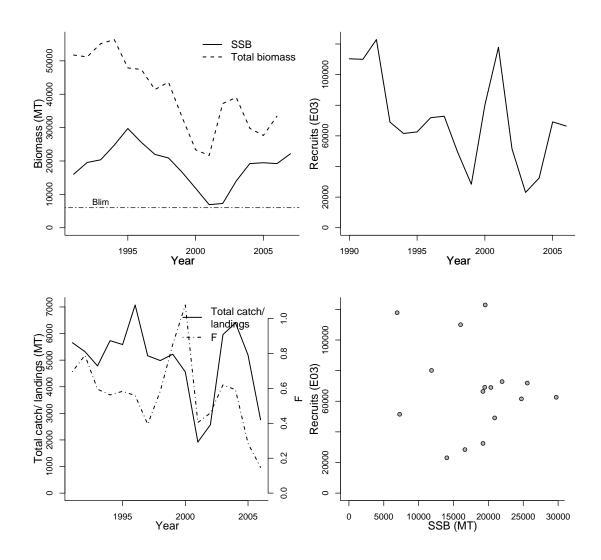
ID: WGSSDS-HADVIIb-k-1993-2006-JENNINGS Haddock ICES VIIb-k



### Melanogrammus aeglefinus - Haddock

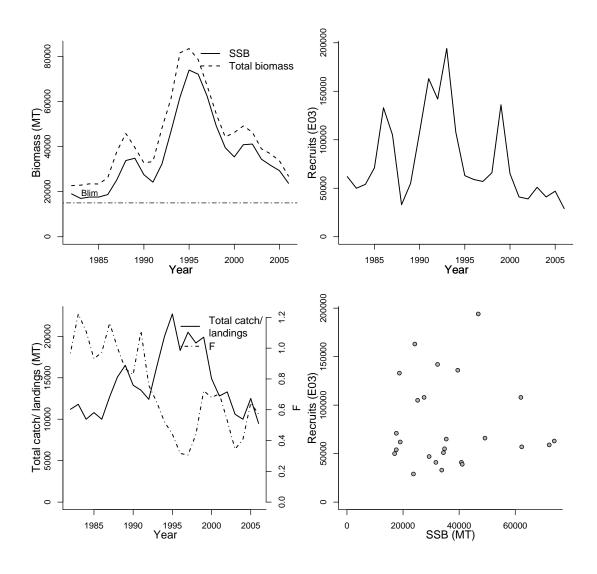
### ID: WGNSSK-HADROCK-1990-2007-JENNINGS

Haddock Rockall Bank



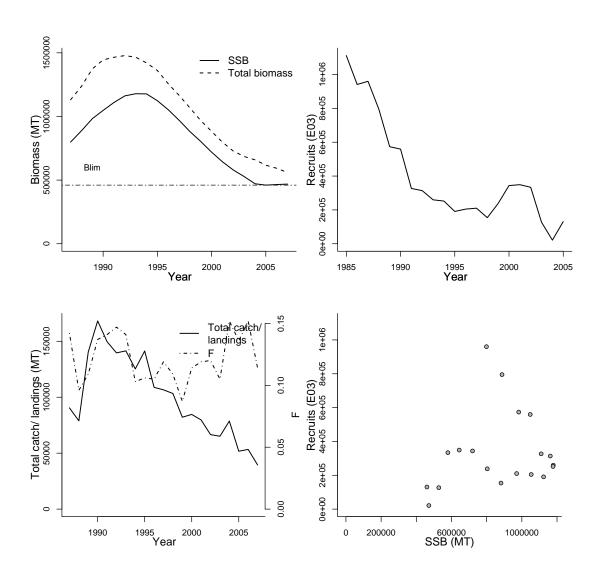
# ${\bf Merlangius\ merlangus\ \textbf{-}\ Whiting}$

ID: WGSSDS-WHITVIIek-1982-2007-JENNINGS Whiting ICES VIIe-k



### Micromesistius australis - Southern blue whiting

ID: INIDEP-SBWHITARGS-1985-2007-Parma Southern blue whiting Southern Argentina stock assessment conducted: Virtual Population Analysis

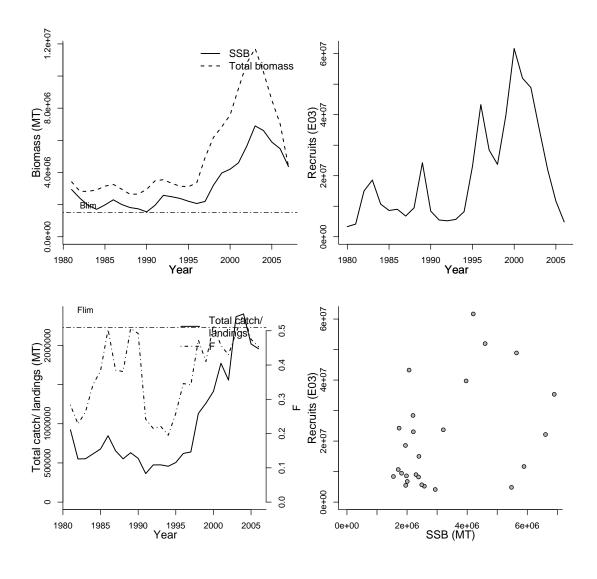


### Micromesistius poutassou - Blue whiting

### ID: WGNPBW-BWHITNEA-1980-2007-JENNINGS

Whiting Northeast Atlantic

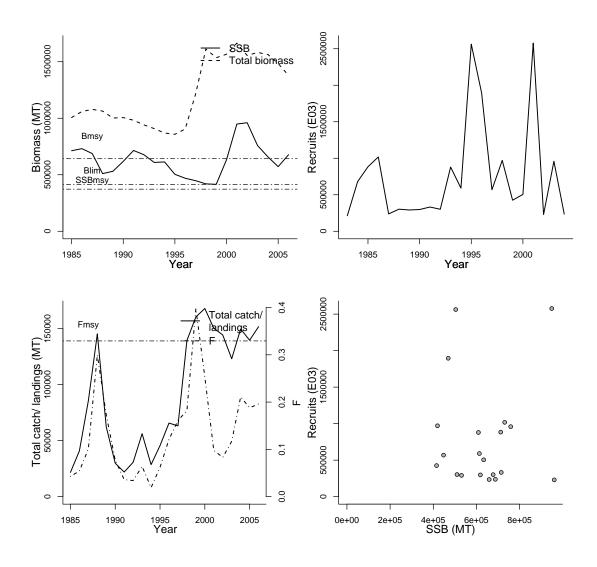
stock assessment conducted: Stochastic Multi-species (SMS) model



# 2.4.2 Merlucciidae

### Macruronus magellanicus - Patagonian grenadier

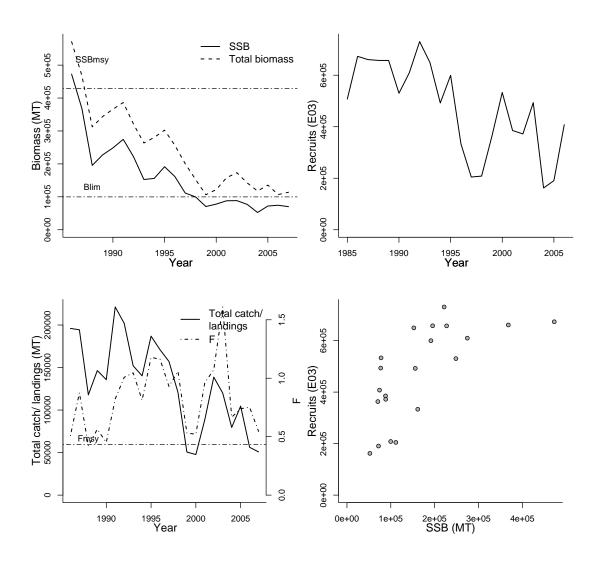
ID: INIDEP-PATGRENADIERSARG-1983-2006-Parma Patagonian grenadier Southern Argentina stock assessment conducted: Virtual Population Analysis



# Merluccius hubbsi - Argentine hake

### ID: INIDEP-ARGHAKENARG-1985-2007-Parma

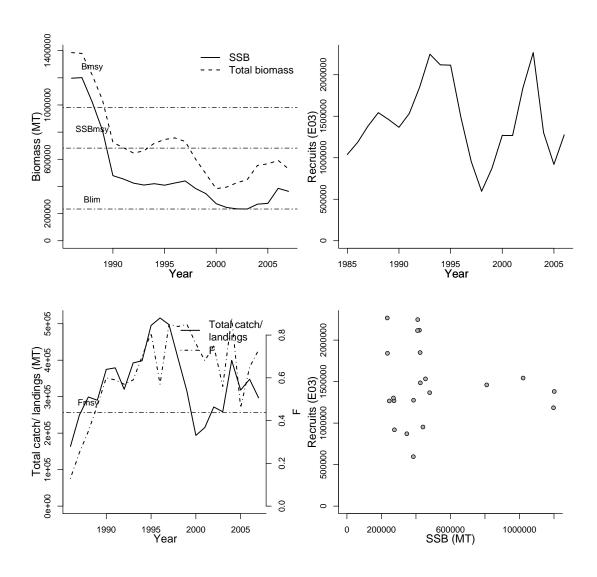
Argentine hake Northern Argentina stock assessment conducted: Virtual Population Analysis



# Merluccius hubbsi - Argentine hake

### ID: INIDEP-ARGHAKESARG-1985-2007-Parma

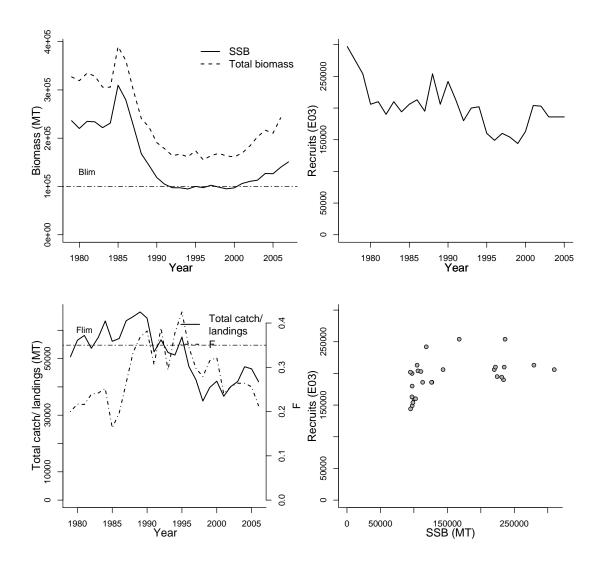
Argentine hake Southern Argentina stock assessment conducted: Virtual Population Analysis



#### Merluccius merluccius - Hake

### ID: WGHMM-HAKENRTN-1977-2007-JENNINGS

Hake Northeast Atlantic North

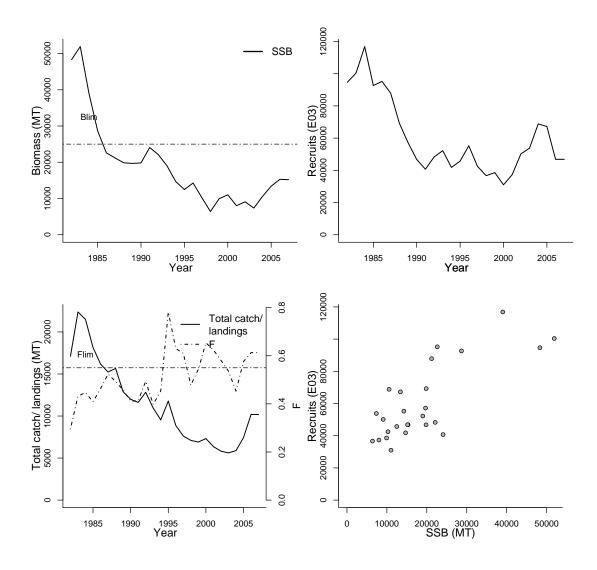


#### Merluccius merluccius - Hake

# ID: WGHMM-HAKESOTH-1982-2007-JENNINGS

Hake Northeast Atlantic South

stock assessment conducted: Extended Survivor Analysis



# 2.5 Perciformes

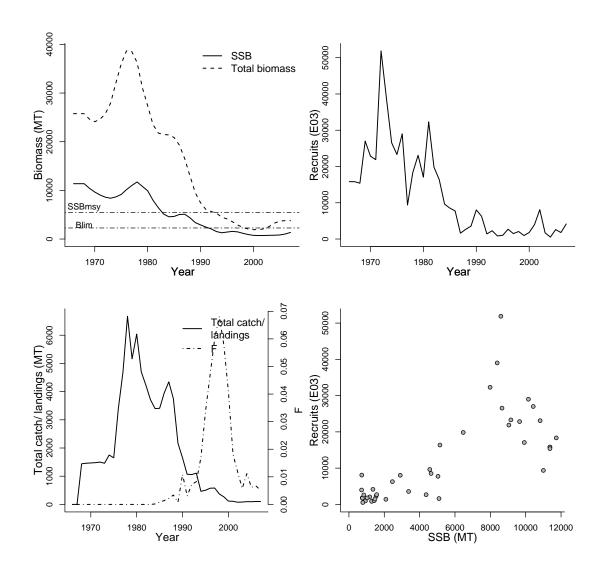
# 2.5.1 Gempylidae

# Rexea solandri - common gemfish

ID: CSIRO-GEMFISHSESSF-1966-2007-FULTON

common gemfish Southeast Australia

stock assessment conducted: Stock Synthesis v2.0 model



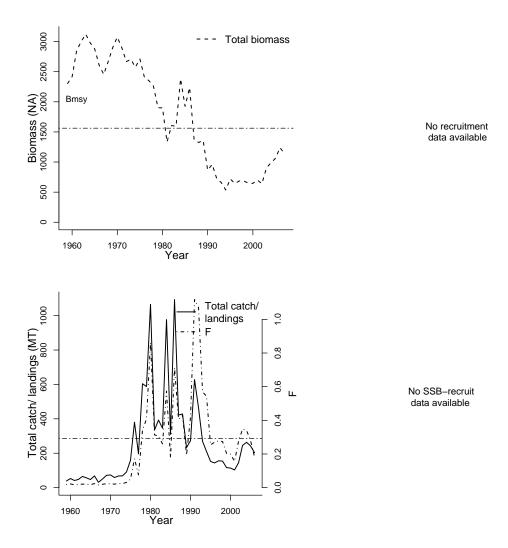
# 2.5.2 Labridae

# Tautoga onitis - Tautog

# ${\rm ID:\ RIDEM\text{-}TAUTOGRI\text{-}1959\text{-}2007\text{-}COLLIE}$

Tautog Rhode Island

stock assessment conducted: Age-aggregated surplus production model



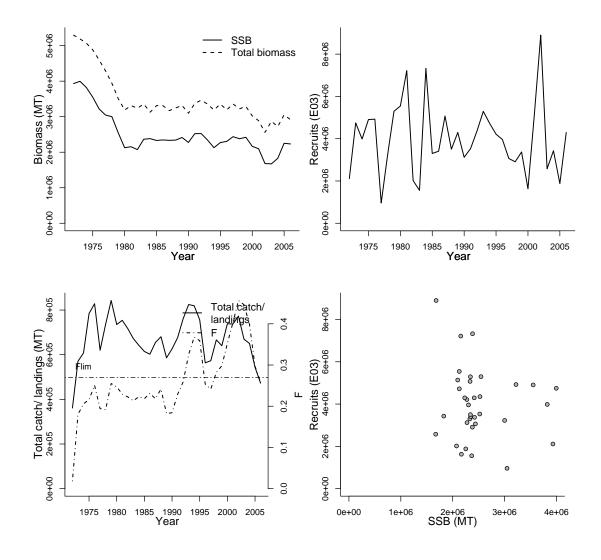
# 2.5.3 Scombridae

# Scomber scombrus - Mackerel

ID: WGMHSA-MACKNEICES-1972-2007-JENNINGS

Mackerel ICES Northeast Atlantic

stock assessment conducted: Integrated Catch-at-age Analysis



# 2.6 Pleuronectiformes

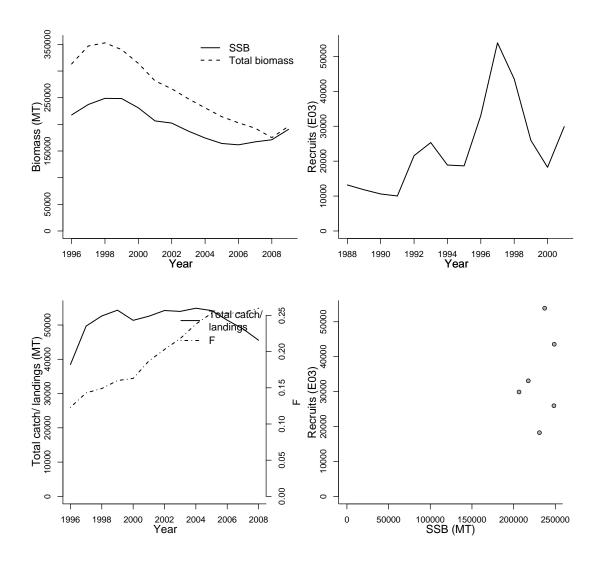
# 2.6.1 Pleuronectidae

# Hippoglossus stenolepis - Pacific halibut

ID: IPHC-PHALNPAC-1988-2009-Parma

Pacific halibut North Pacific

stock assessment conducted: an AD-Model builder statistical Catch at Age Model

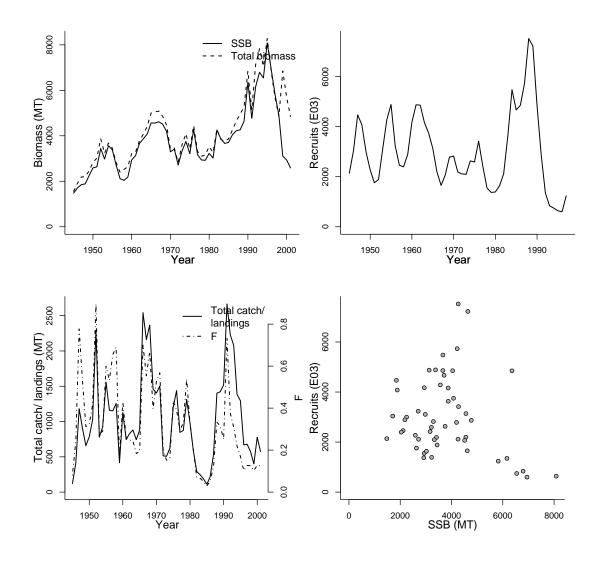


# Lepidopsetta bilineata - Rock sole

# ID: DFO-PAC-RSOLEHSTR-1945-2001-COLLIE

Rock sole Hecate Strait

stock assessment conducted: State-space catch at age time series analysis

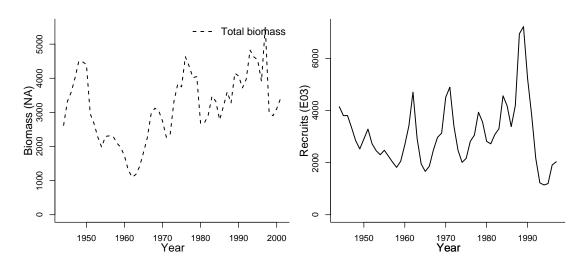


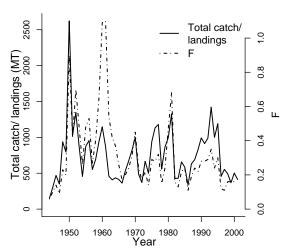
# Parophrys vetulus - English sole

# ID: DFO-PAC-ESOLEHS-1944-2001-COLLIE

English sole Hecate Strait

stock assessment conducted: State-space catch at age time series analysis



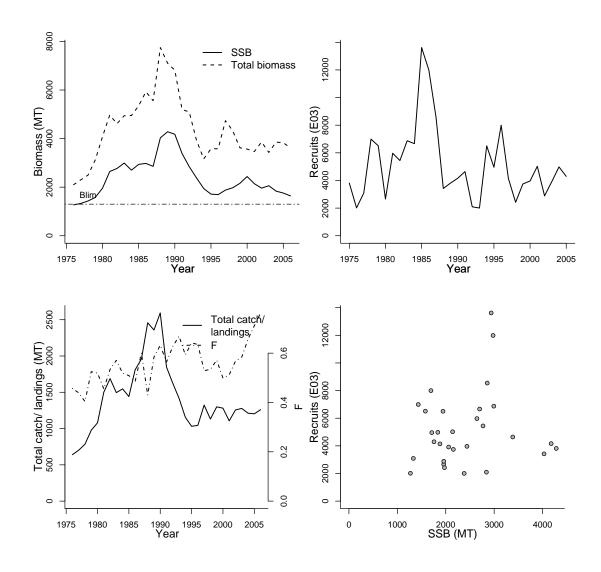


No SSB-recruit data available

# Pleuronectes platessa - European Plaice

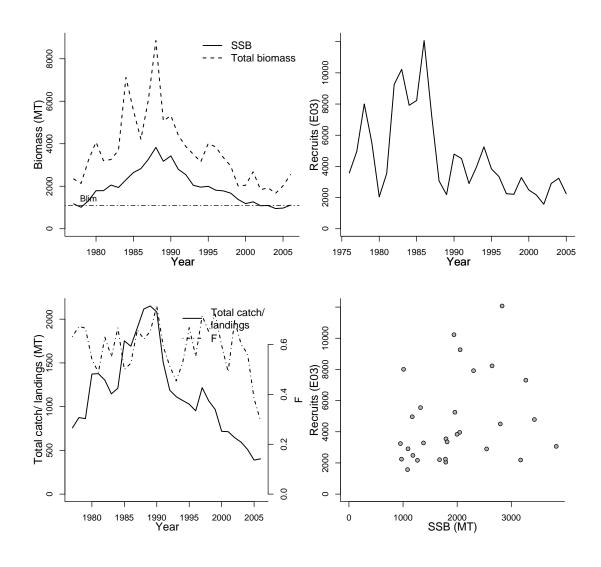
ID: WGSSDS-PLAICECHW-1975-2006-JENNINGS European Plaice ICES VIIe

stock assessment conducted: Extended Survivor Analysis



# Pleuronectes platessa - European Plaice

ID: WGSSDS-PLAICCELT-1976-2006-JENNINGS European Plaice ICES VIIf-g stock assessment conducted: Extended Survivor Analysis

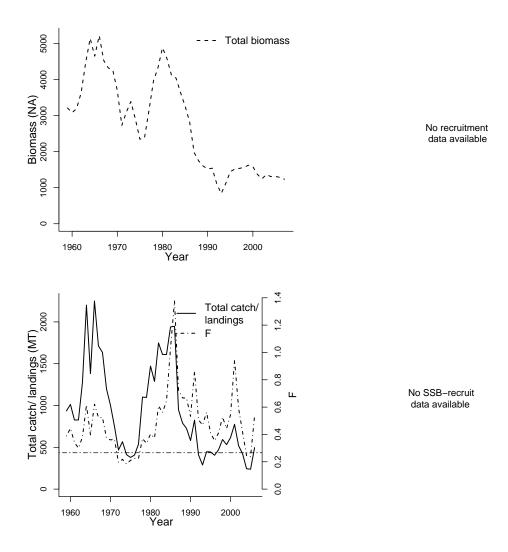


# Pseudopleuronectes americanus - Winter flounder

# ID: RIDEM-WINFLOUNDRI-1959-2007-COLLIE

Winter flounder Rhode Island

stock assessment conducted: Age-aggregated surplus production model

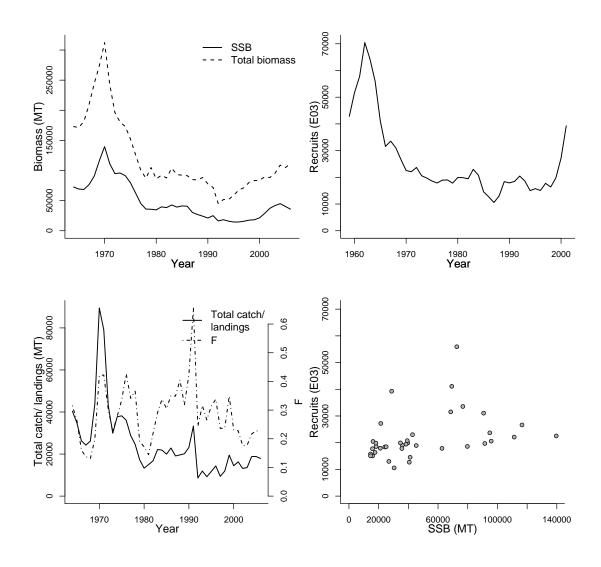


# Reinhardtius hippoglossoides - Greenland halibut

ID: AFWG-GHALNEAR-1959-2007-JENNINGS

Greenland halibut Northeast Arctic

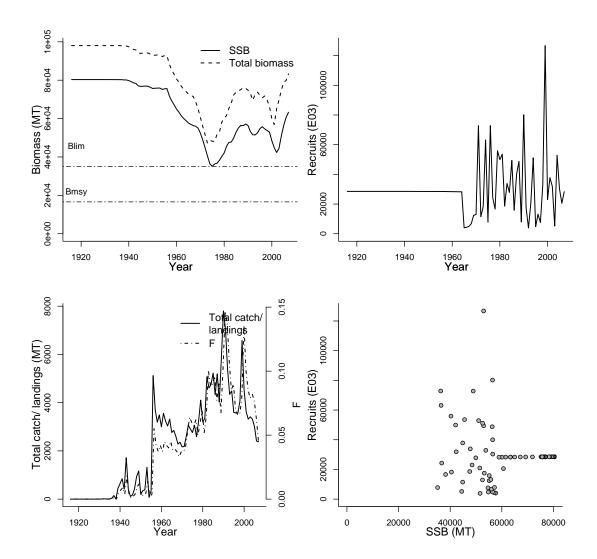
stock assessment conducted: Extended Survivor Analysis



#### Reinhardtius stomias - Arrowtooth flounder

# ID: NWFSC-ARFLOUNDPCOAST-1916-2007-BRANCH

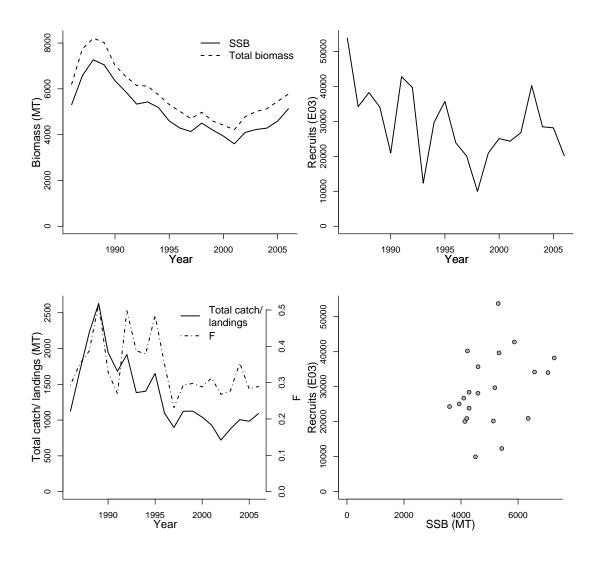
Arrowtooth flounder Pacific Coast stock assessment conducted: Stock Synthesis v2.0 model



# 2.6.2 Scophthalmidae

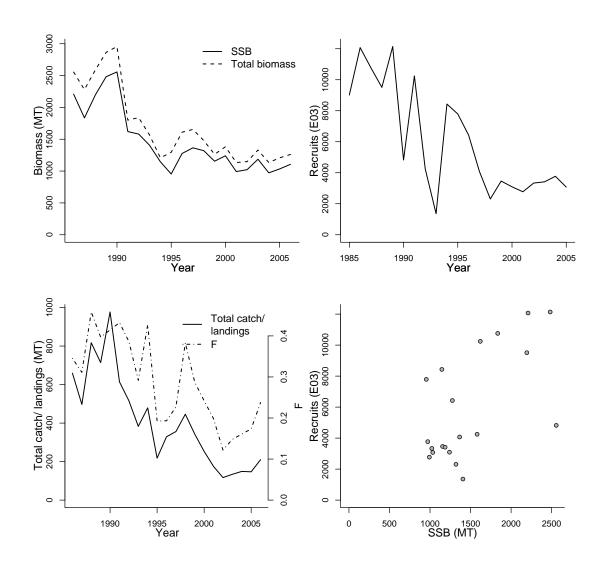
# Lepidorhombus boscii - Fourspotted megrim

ID: WGHMM-FMEG8c9a-1986-2006-JENNINGS Fourspotted megrim ICES VIIIc-IXa stock assessment conducted: Extended Survivor Analysis



# Lepidorhombus whiffiagonis - Megrim

ID: WGHMM-MEG8c9a-1985-2007-JENNINGS Megrim ICES VIIIc-IXa stock assessment conducted: Extended Survivor Analysis



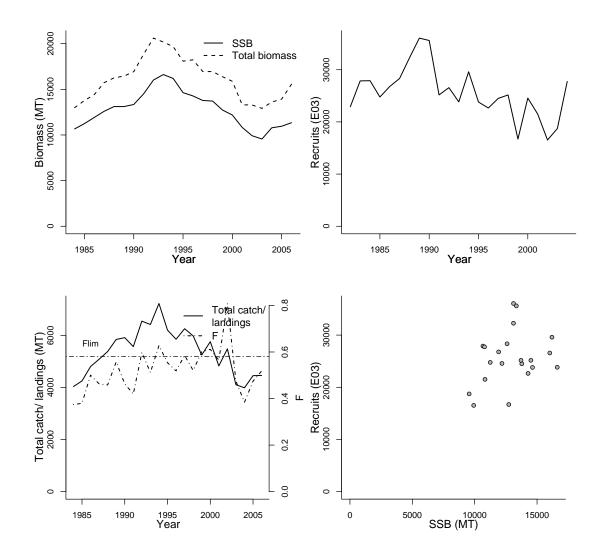
# 2.6.3 Soleidae

# Solea vulgaris - common European sole

# ID: WGHMM-SOLEVIII-1982-2006-JENNINGS

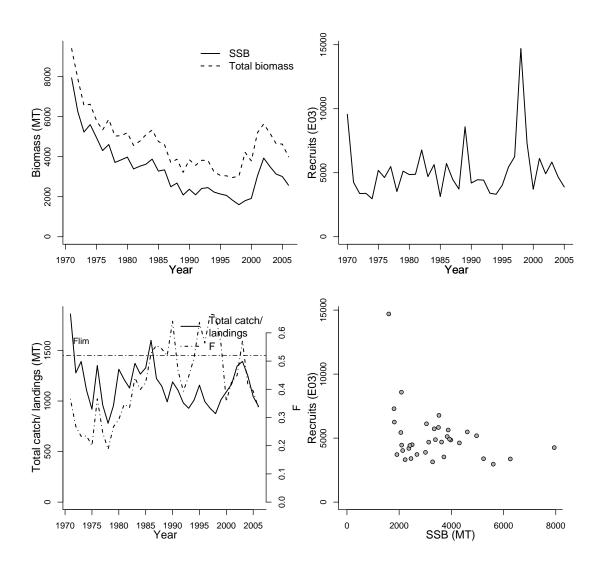
common European sole Bay of Biscay

stock assessment conducted: Extended Survivor Analysis



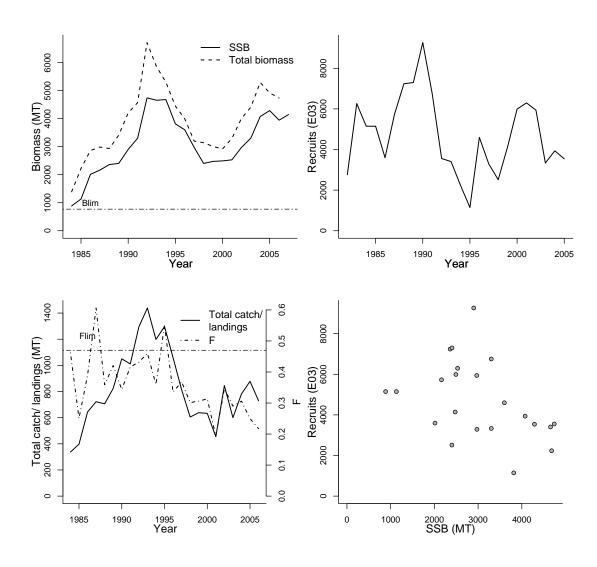
# Solea vulgaris - common European sole

ID: WGSSDS-SOLECS-1970-2006-JENNINGS common European sole Celtic Sea stock assessment conducted: Extended Survivor Analysis



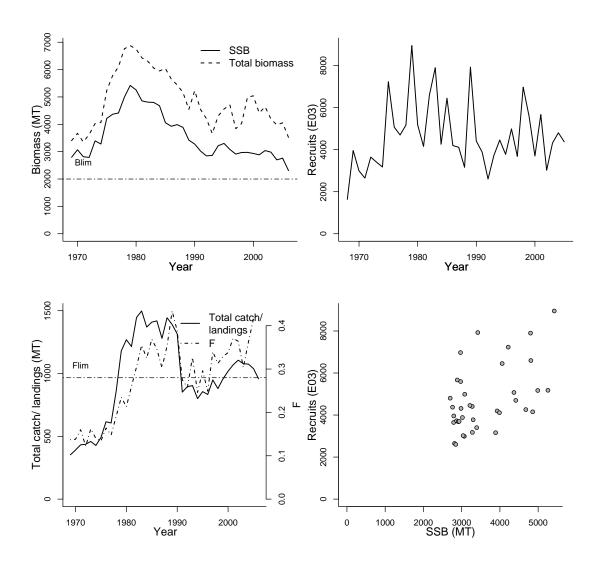
# Solea vulgaris - common European sole

ID: WGBFAS-SOLEIIIa-1982-2007-JENNINGS common European sole ICES Kattegat and Skagerrak stock assessment conducted: Extended Survivor Analysis



# Solea vulgaris - common European sole

ID: WGSSDS-SOLEVIIe-1968-2006-JENNINGS common European sole Western English Channel stock assessment conducted: Extended Survivor Analysis



# 2.7 Scorpaeniformes

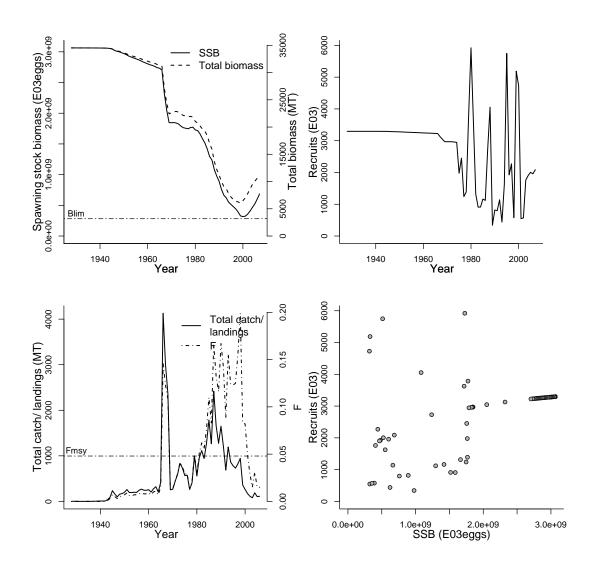
# 2.7.1 Scorpaenidae

#### Sebastes crameri - Darkblotched rockfish

#### ID: NWFSC-DKROCKPCOAST-1928-2007-BRANCH

Darkblotched rockfish Pacific Coast

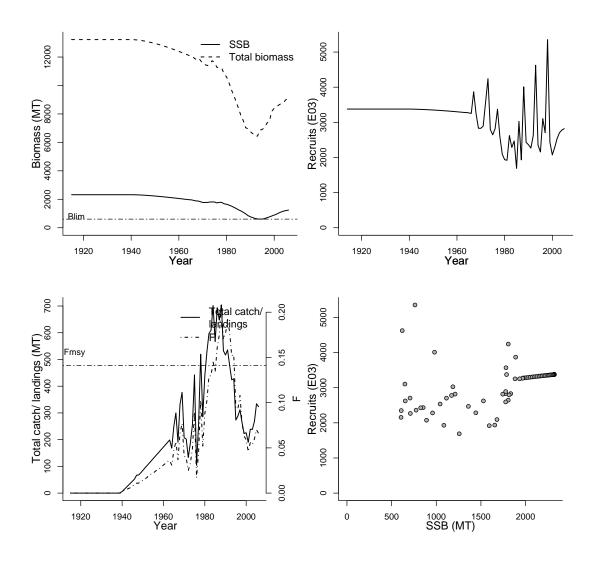
stock assessment conducted: Stock Synthesis v2.0 model



# Sebastes melanops - Black rockfish

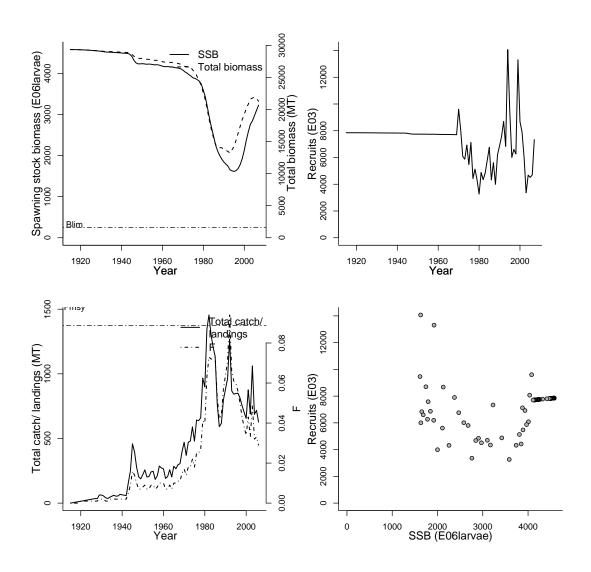
# ID: NWFSC-BLACKROCKNPCOAST-1914-2006-BRANCH Black rockfish Northern Pacific Coast

stock assessment conducted: Stock Synthesis v2.0 model



# Sebastes melanops - Black rockfish

# ID: NWFSC-BLACKROCKSPCOAST-1915-2007-BRANCH Black rockfish Southern Pacific Coast stock assessment conducted: Stock Synthesis v2.0 model



# Chapter 3

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- 3.3 Number of assessments per species
- 3.4 Number of assessments per jurisdiction
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