

Dear Simon,

Thank you sincerely for submitting assessments to the Myers II database. We have entered 27 of your assessments, and now wish to quality assure/quality control (QA/QC) these data for a release version of the database. Please follow the steps below to ensure that your assessments have been dutifully represented:

QA/QC steps

For each assessment:

1. Ensure that the General assessment details are correct.
2. Ensure that the units for all Biometrics and Time Series shown are correct. To aid in this, we have included the minimum, maximum, first year, and last year of the spawning stock biomass, recruitment, fishing mortality, total biomass, and catch (where provided).
3. If there are blank values in the Biometrics table, please include these in your response (see below), where they are available. Please note that in the Biometrics table, the following abbreviations are used:
 - SSB-AGE-yr = Ages for which the spawning stock biomass is defined
 - REC-AGE = Age at recruitment
 - F-AGE-yr = Ages for which the fishing mortality is defined
 - TB-AGE-yr = Ages for which the total biomass is defined
 - M = Natural mortality
 - A50-yr = The age at 50% maturity
 - L50-cm = The length at 50% maturity
 - MORATOR-yr-yr = Moratorium years
 - LME = Large Marine Ecosystem
4. To ensure that the recruitment time series has been offset by the age at recruitment so that yearclass matches up with spawner biomass, please make sure that the difference between the last year of the recruitment and last year of the SSB time series is equal to the age at recruitment supplied (unless there is another reason, e.g. estimates unavailable).
5. Provide Large Marine Ecosystem (LME) designation(s) for your stock (unless it is a high seas stock). Please enter a primary, secondary and tertiary LME (if they exist) in the issue you submit (see below). A map of the LMEs is provided on the last page of this document.

QA/QC submission process

If you (or someone else) submitted the assessments via the RAM legacy site, please log into : <http://www.marinebiodiversity.ca/RAMlegacy/ramlegacy-bug-reporting> and locate the issue(s) associated with your spreadsheet submission(s). Once you locate your assessment, open the associated issue and choose 'Add response'. At the top of this response write:

QAQC: Assessment ID (this ID is located at the top of each assessment in the current document)

If you did not submit via the RAM Legacy site, please go to the url above and click "Submit a new issue" with the title: *QAQC: Assessment ID* (located at the top of each assessment in this pdf).

If you found no issues with the QA/QC document, please type:

"QA/QC correct". If you have found issues, please update the assessment spreadsheet accordingly or write the details of corrections to be made in the dialogue box. Once we have received and processed your response, the assessment will be flagged as quality controlled and the data it contains will be used for analyses.

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Assessment of North-East Arctic greenland halibut (*Reinhardtius hippoglossoides*)

Assessment ID:AFWG-GHALNEAR-1959-2007-JENNINGS

Area ID: multinational-ICES-I-II

General assessment details.

Detail	Value
Management body	ICES
Assessment group	Arctic Fisheries Working Group
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1959-2007
Document	ICES-AFWG-2007.pdf (pdf in database)
Recorder	JENNINGS
Date entered	2009-03-10

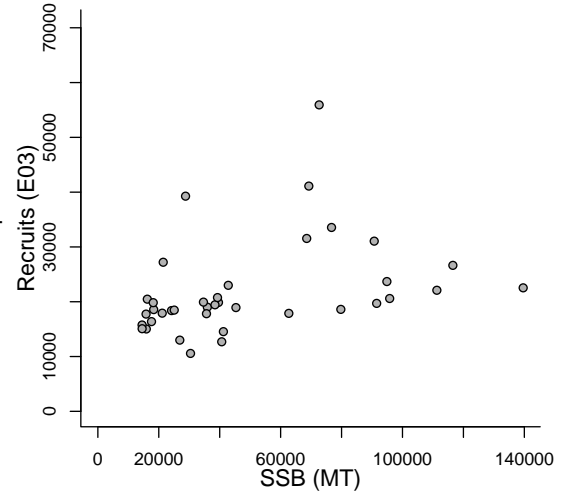
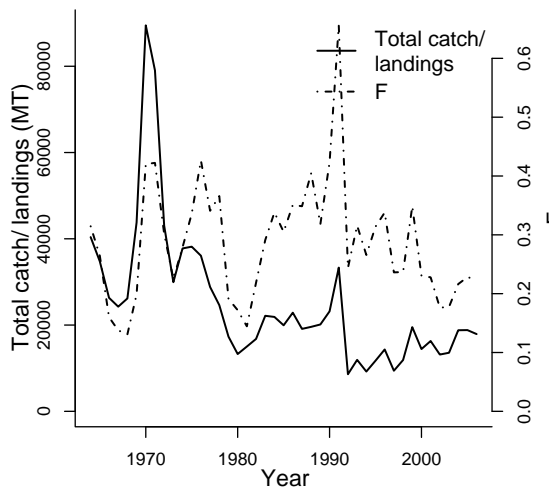
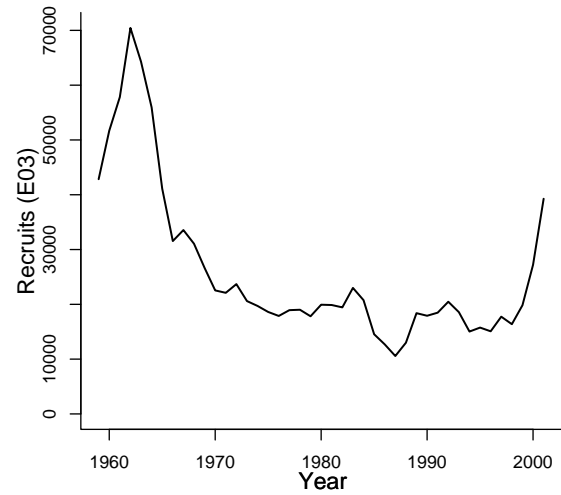
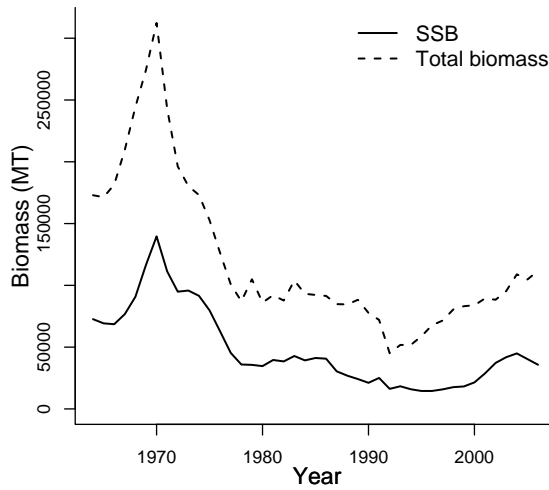
Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	5	yr
TB-AGE-yr	5+	yr
A50-yr	AVAILABLE	yr
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units

Time series minima and maxima

	SSB	R	F	TB	Catch
Minimum year	1964	1959	1964	1964	1964
Maximum year	2006	2001	2006	2006	2006
Time series minimum	14516	10569	0.1309	45036	8602
Time series maximum	139620	70443	0.6561	312354	89484
Units	MT	E03	1/T	MT	MT



Assessment of Irish Sea herring (*Clupea harengus*)

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

Area ID: multinational-ICES-VIIa

General assessment details.

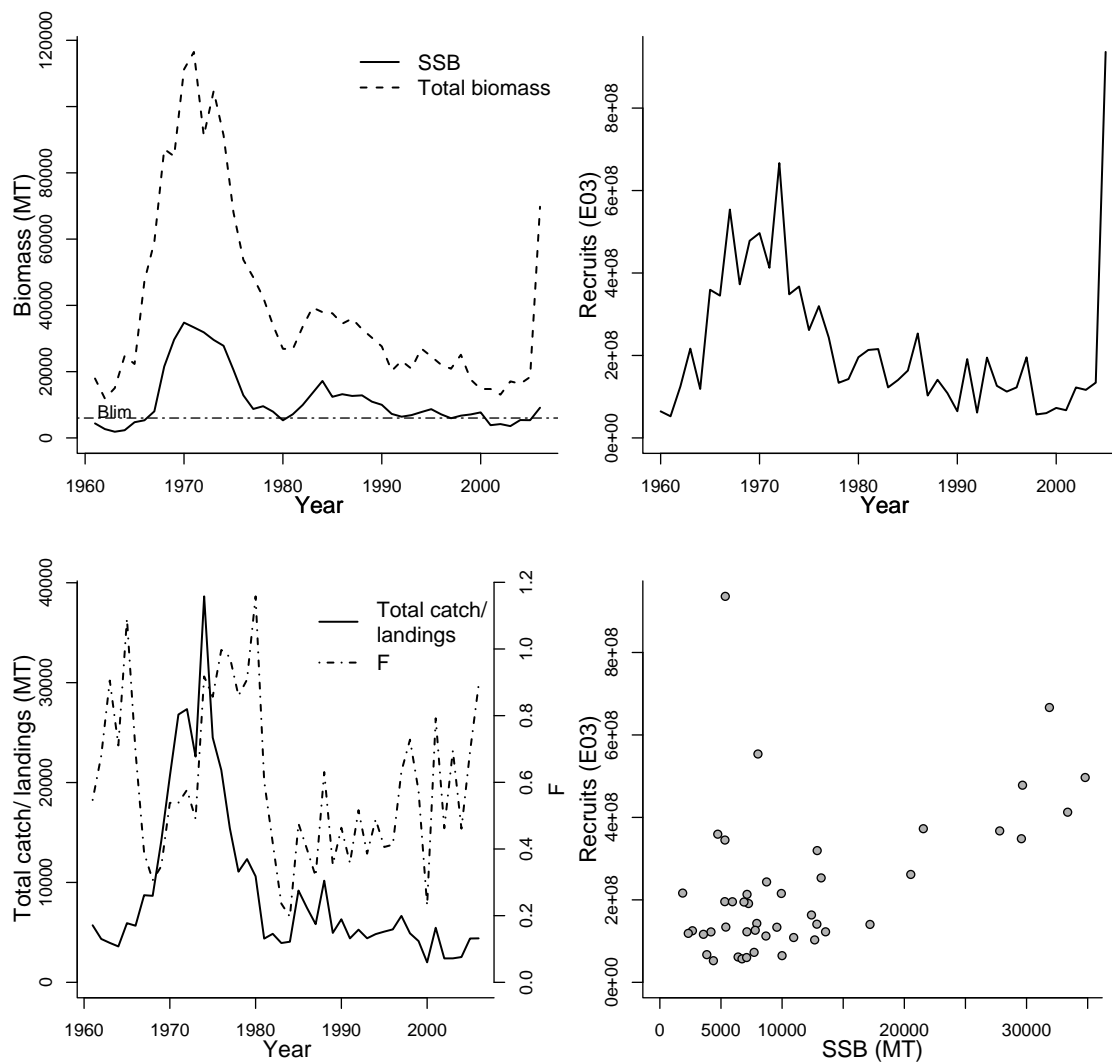
Detail	Value
Management body	ICES
Assessment group	Herring Assessment Working Group for the Area South of 62N
Assessment authors	Anon
Assessment method	Integrated Catch-at-age Analysis
Publication year	2007
Timeseries span	1960-2006
Document	ICES-HAWG-2007.pdf (pdf in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	1	yr
TB-AGE-yr	1+	yr
A50-yr	AVAILABLE	yr
M-1/T	AVAILABLE	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Blim-MT (SSB)	6000	MT
SSB_{2006}/B_{lim}	1.519	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1961	1960	1961	1961	1961
Maximum year	2006	2005	2006	2006	2006
Time series minimum	1866	52490000	0.1966	11871	2002
Time series maximum	34796	936160000	1.1579	116486	38640
Units	MT	E03	1/T	MT	MT



Assessment of Western Baltic atlantic cod (*Gadus morhua*)

Assessment ID:WGBFAS-CODBA2224-1969-2007-JENNINGS

Area ID: multinational-ICES-22-24

General assessment details.

Detail	Value
Management body	ICES
Assessment group	Baltic Fisheries Assessment Working Group
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1969-2007
Document	ICES- WGBFAS-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

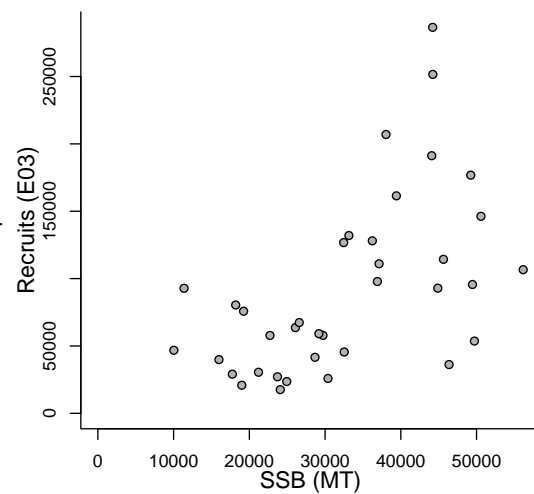
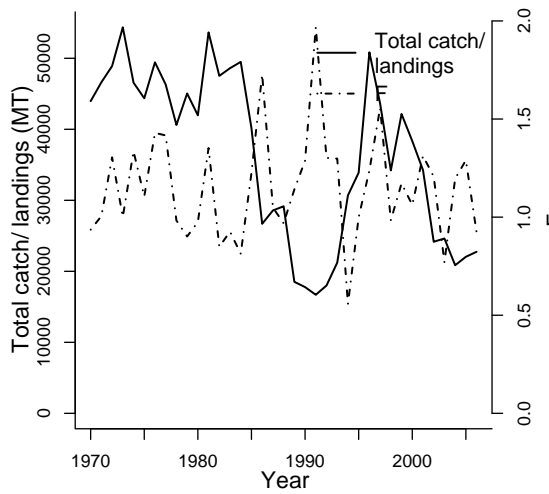
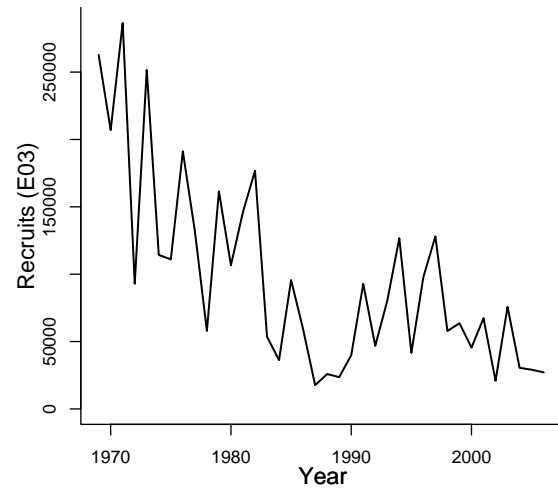
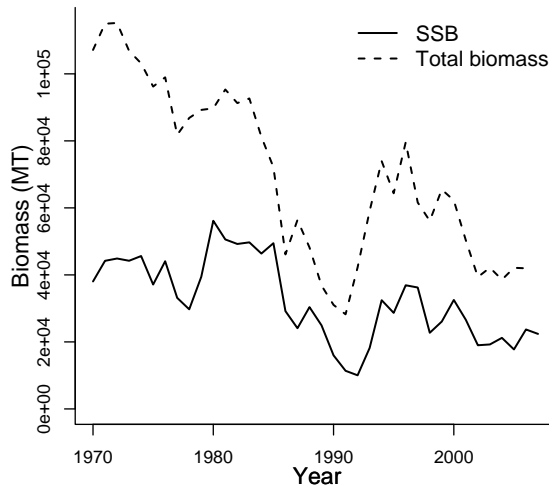
Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units			
SSB-AGE-yr	AVAILABLE	yr			
REC-AGE-yr	1	yr			
TB-AGE-yr	1+	yr			
A50-yr	AVAILABLE	yr			
M-1/T	AVAILABLE	1/T			
F-AGE-yr					
M					
L50-cm					
MORATOR-yr-yr					
LME					

Reference points		
Parameter	Value	Units

Time series minima and maxima

	SSB	R	F	TB	Catch
Minimum year	1970	1969	1970	1970	1970
Maximum year	2007	2006	2006	2006	2006
Time series minimum	10034	17605	0.5573	28235	16693
Time series maximum	56154	286485	1.9674	115194	54357
Units	MT	E03	1/T	MT	MT



Assessment of Eastern Baltic atlantic cod (*Gadus morhua*)

Assessment ID:WGBFAS-CODBA2532-1964-2007-JENNINGS

Area ID: multinational-ICES-25-32

General assessment details.

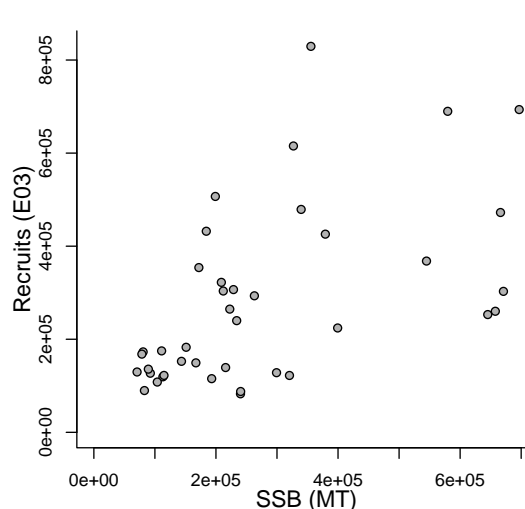
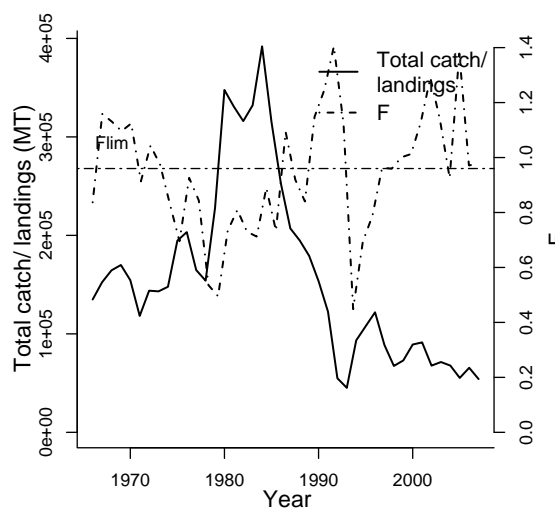
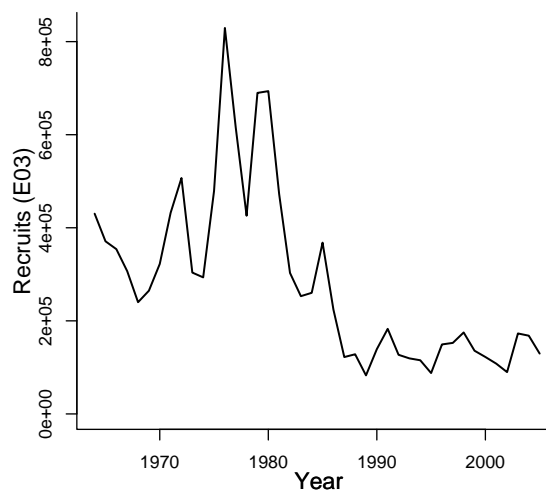
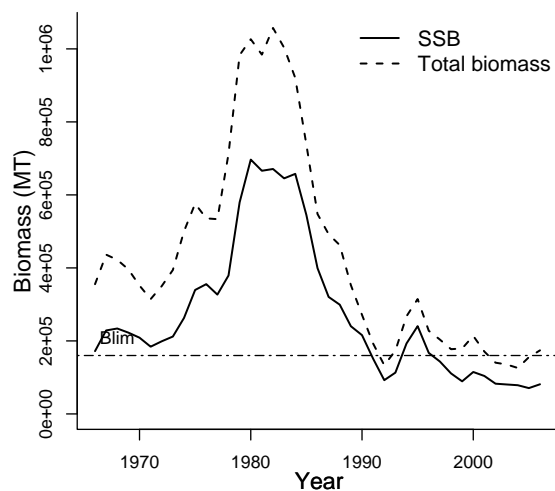
Detail	Value
Management body	ICES
Assessment group	Baltic Fisheries Assessment Working Group
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1964-2007
Document	ICES-WGBFAS-2007.pdf (pdf in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	2	yr
TB-AGE-yr	2+	yr
A50-yr	AVAILABLE	yr
M-1/T	0.2	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Flim-1/T (F)	0.96	1/T
Fpa-1/T (F)	0.6	1/T
Blim-MT (SSB)	160000	MT
SSB_{2006}/B_{lim}	0.507	
F_{2006}/F_{lim}	1.018	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1966	1964	1966	1966	1966
Maximum year	2006	2005	2006	2006	2007
Time series minimum	70762	82818	0.4482	125877	45188
Time series maximum	696743	829398	1.4046	1057368	391952
Units	MT	E03	1/T	MT	MT



Assessment of Eastern Baltic herring (*Clupea harengus*)

Assessment ID:WGBFAS-HERR2532-1973-2006-JENNINGS

Area ID: multinational-ICES-25-32

General assessment details.

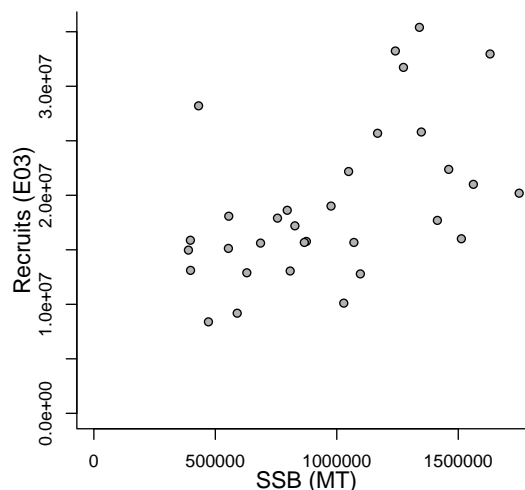
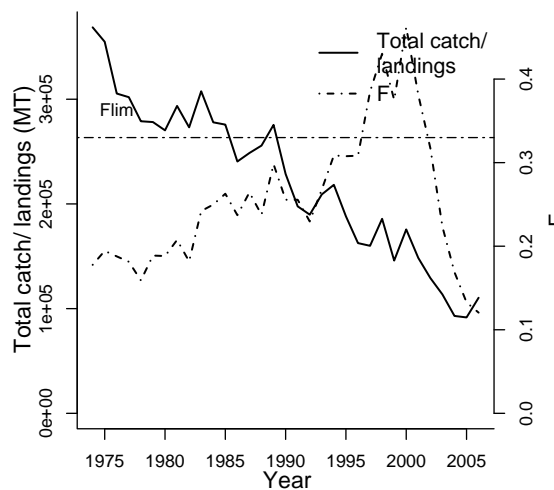
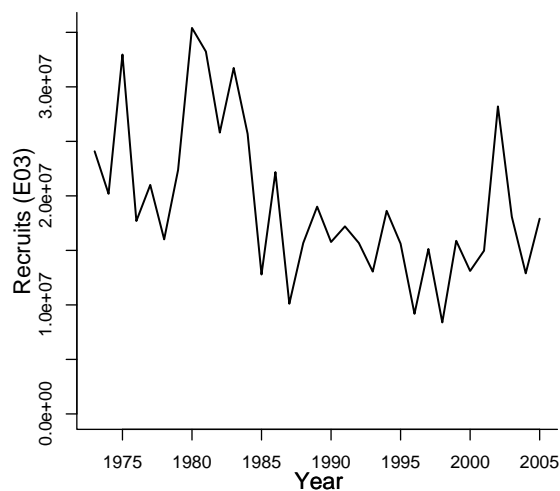
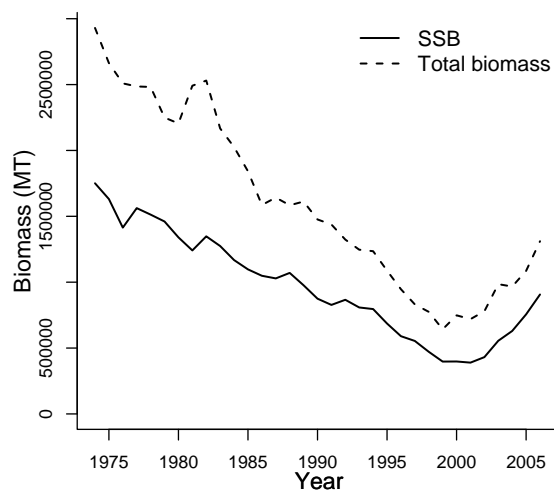
Detail	Value
Management body	ICES
Assessment group	Baltic Fisheries Assessment Working Group
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1973-2006
Document	ICES-WGBFAS-2007.pdf (pdf in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	1	yr
TB-AGE-yr	1+	yr
A50-yr	AVAILABLE	yr
M-1/T	AVAILABLE	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
F _{lim} -1/T (F)	0.33	1/T
F_{2006}/F_{lim}	0.365	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1974	1973	1974	1974	1974
Maximum year	2006	2005	2006	2006	2006
Time series minimum	389316	8391585	0.1205	642453	91592
Time series maximum	1750785	35403764	0.4619	2929887	368652
Units	MT	E03	1/T	MT	MT



Assessment of Bothnian Sea herring (*Clupea harengus*)

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

Area ID: multinational-ICES-30

General assessment details.

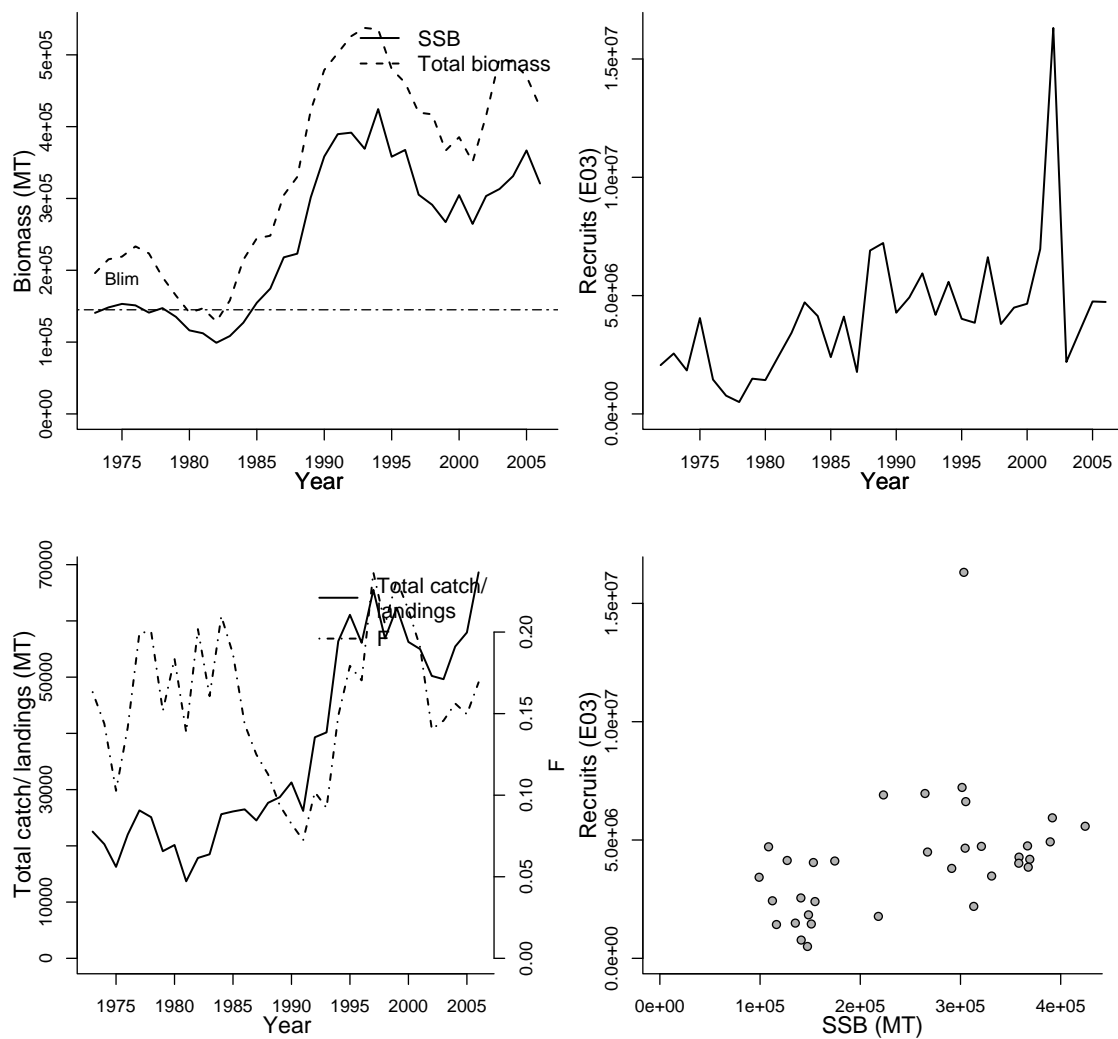
Detail	Value
Management body	ICES
Assessment group	Baltic Fisheries Assessment Working Group
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1972-2007
Document	ICES-WGBFAS-2007.pdf (pdf in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	1	yr
TB-AGE-yr	1+	yr
A50-yr	AVAILABLE	yr
M-1/T	0.2	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
F _{lim} -1/T (F)	0.3	1/T
F _{pa} -1/T (F)	0.21	1/T
B _{lim} -MT (SSB)	145000	MT
SSB_{2006}/B_{lim}	2.213	
F_{2006}/F_{lim}	0.564	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1973	1972	1973	1973	1973
Maximum year	2006	2006	2006	2006	2006
Time series minimum	99048	501629	0.0724	128629	13700
Time series maximum	424424	16311979	0.2366	537441	68635
Units	MT	E03	1/T	MT	MT



Assessment of Bothnian Sea herring (*Clupea harengus*)

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

Area ID: multinational-ICES-30

General assessment details.

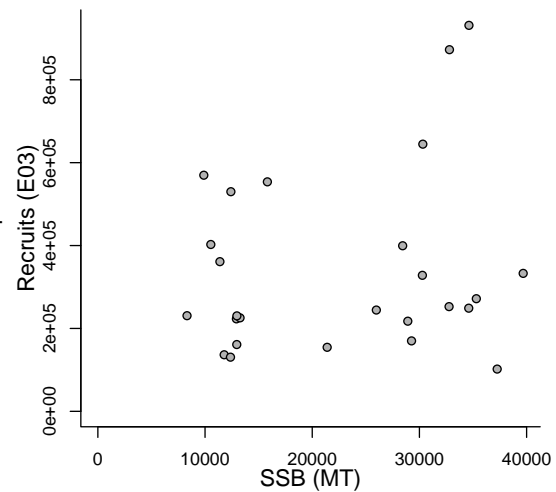
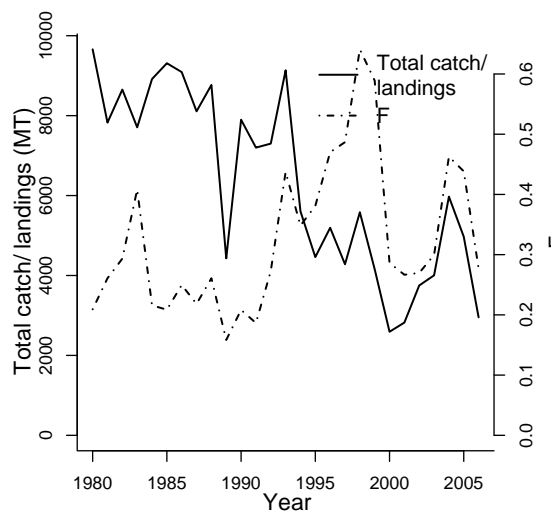
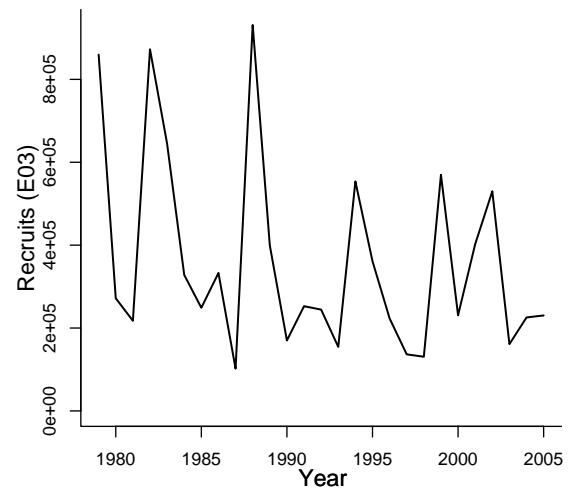
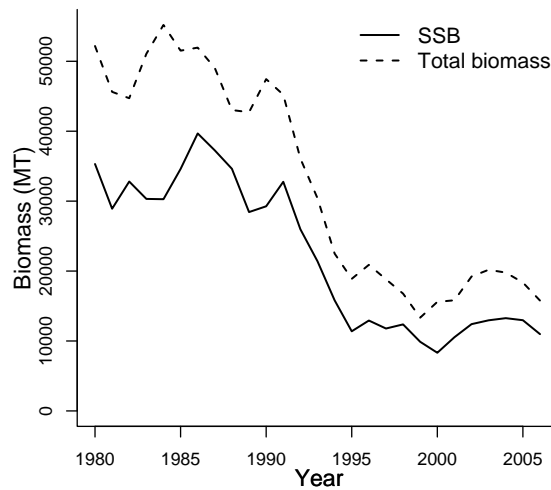
Detail	Value
Management body	ICES
Assessment group	Baltic Fisheries Assessment Working Group
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1979-2006
Document	ICES-WGBFAS-2007.pdf (pdf in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
TB-AGE-yr	1+	yr
A50-yr	AVAILABLE	yr
REC-AGE		
SSB-AGE-yr		
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1980	1979	1980	1980	1980
Maximum year	2006	2005	2006	2006	2006
Time series minimum	8318	102001	0.1584	13338	2592
Time series maximum	39680	931324	0.6409	55196	9659
Units	MT	E03	1/T	MT	MT



Assessment of Iceland Grounds herring (*Clupea harengus*)

Assessment ID:WGBFAS-HERRIsum-1983-2007-JENNINGS

Area ID: multinational-ICES-Va

General assessment details.

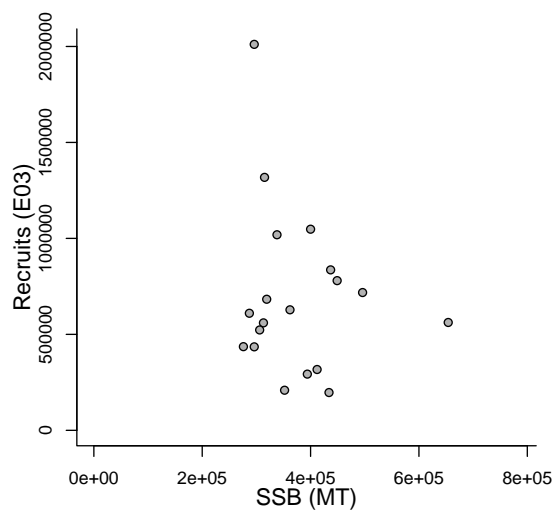
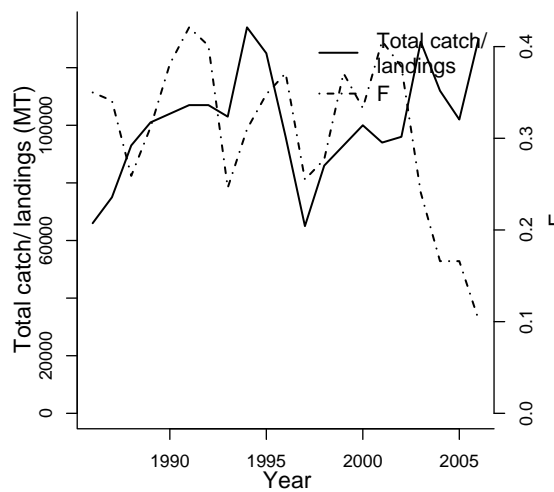
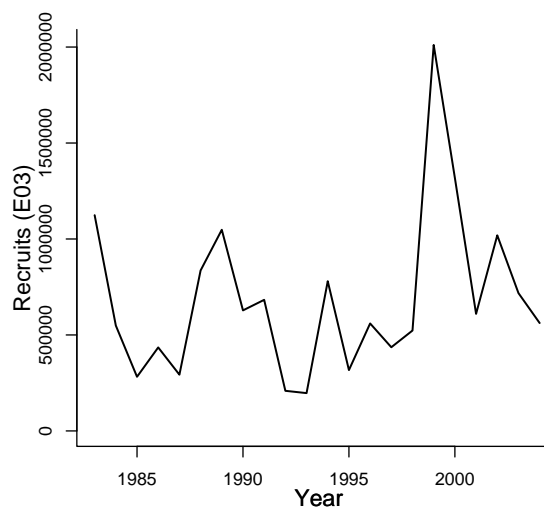
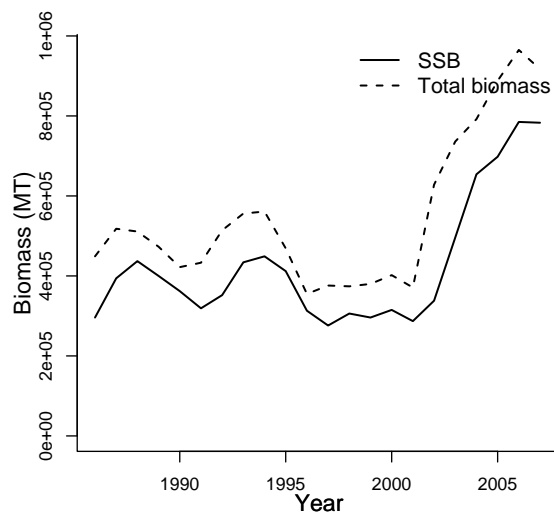
Detail	Value
Management body	ICES
Assessment group	Baltic Fisheries Assessment Working Group
Assessment authors	Anon
Assessment method	NFT-ADAP
Publication year	2007
Timeseries span	1983-2007
Document	ICES-NWWG-2007.pdf (pdf in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
A50-yr	AVAILABLE	yr
REC-AGE		
SSB-AGE-yr		
TB-AGE-yr		
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1986	1983	1986	1986	1986
Maximum year	2007	2004	2006	2007	2006
Time series minimum	276000	197000	0.102	355000	65000
Time series maximum	785000	2011000	0.421	965000	134000
Units	MT	E03	1/T	MT	MT



Assessment of Gulf of RigaEast of Gotland herring (*Clupea harengus*)

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

Area ID: multinational-ICES-28

General assessment details.

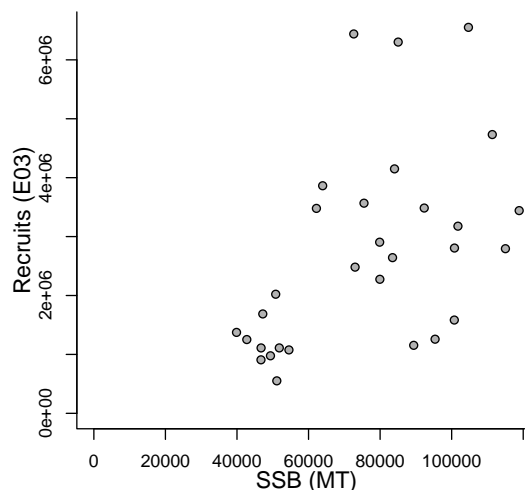
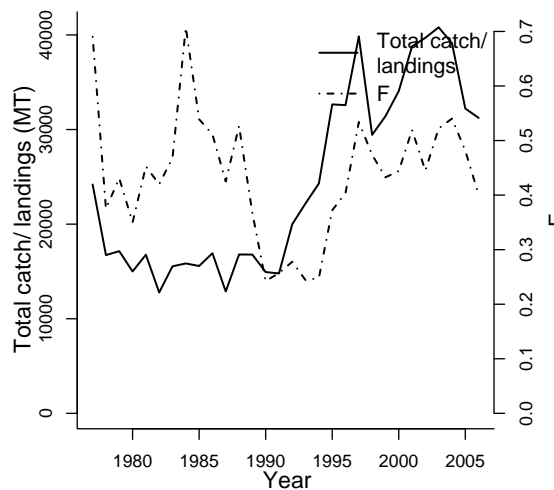
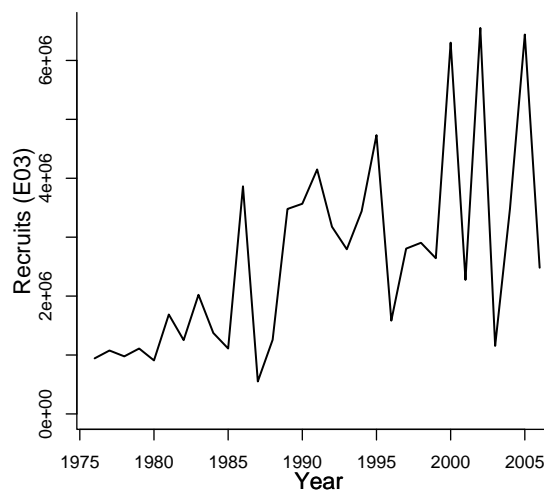
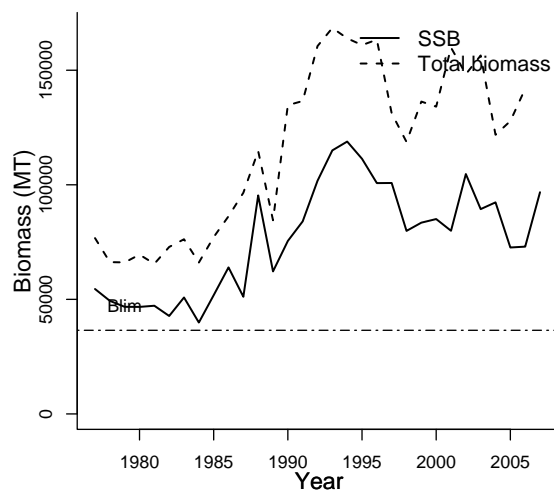
Detail	Value
Management body	ICES
Assessment group	Baltic Fisheries Assessment Working Group
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1976-2007
Document	ICES-WGBFAS-2007.pdf (pdf in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	1.5	yr
REC-AGE-yr	1	yr
TB-AGE-yr	1+	yr
A50-yr	1.5	yr
M-1/T	AVAILABLE	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Fpa-1/T (F)	0.4	1/T
Blim-MT (SSB)	36500	MT
SSB_{2007}/B_{lim}	2.651	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1977	1976	1977	1977	1977
Maximum year	2007	2006	2006	2006	2006
Time series minimum	39874	551371	0.2423	65521	12777
Time series maximum	118870	6551573	0.7075	168458	40803
Units	MT	E03	1/T	MT	MT



Assessment of Kattegat and Skagerrak common european sole (*Solea vulgaris*)

Assessment ID:WGBFAS-SOLEIIIa-1982-2007-JENNINGS

Area ID: multinational-ICES-IIIa

General assessment details.

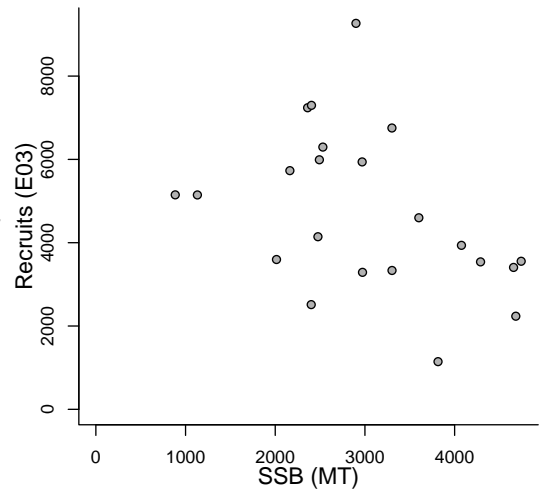
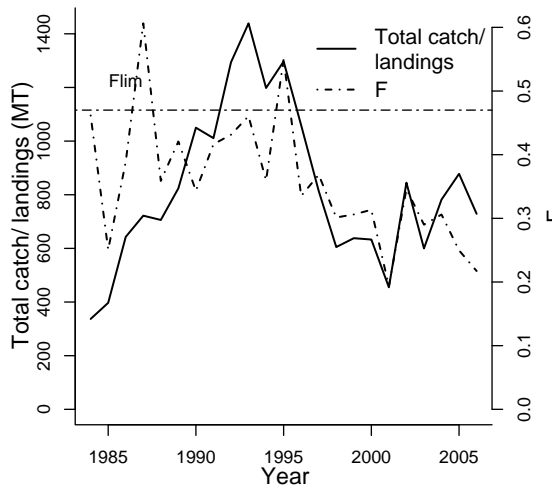
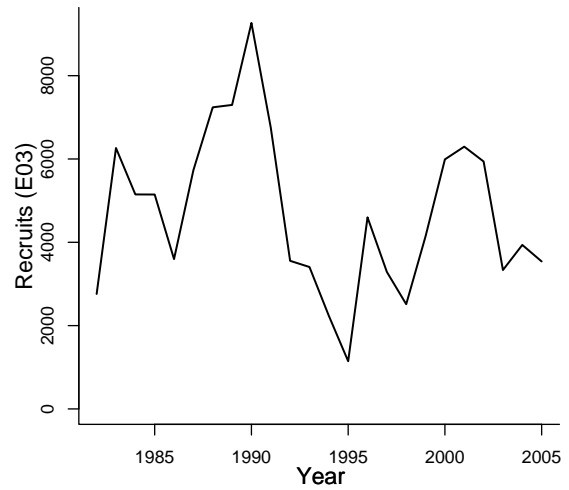
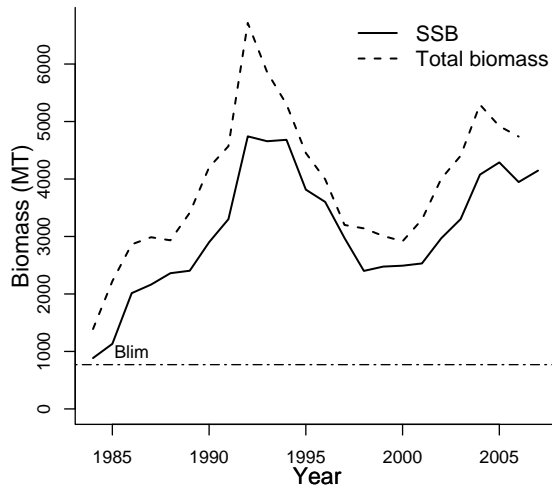
Detail	Value
Management body	ICES
Assessment group	Baltic Fisheries Assessment Working Group
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1982-2007
Document	ICES-WGBFAS-2007.pdf (pdf in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	3	yr
REC-AGE-yr	2	yr
TB-AGE-yr	2+	yr
A50-yr	3	yr
M-1/T	0.1	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Flim-1/T (F)	0.47	1/T
Fpa-1/T (F)	0.3	1/T
Blim-MT (SSB)	770	MT
SSB_{2007}/B_{lim}	5.384	
F_{2006}/F_{lim}	0.462	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1984	1982	1984	1984	1984
Maximum year	2007	2005	2006	2006	2006
Time series minimum	885	1145	0.1935	1390	337
Time series maximum	4742	9266	0.6063	6715	1439
Units	MT	E03	1/T	MT	MT



Assessment of Baltic Areas 22-32 sprat (*Sprattus sprattus*)

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

Area ID: multinational-ICES-22-32

General assessment details.

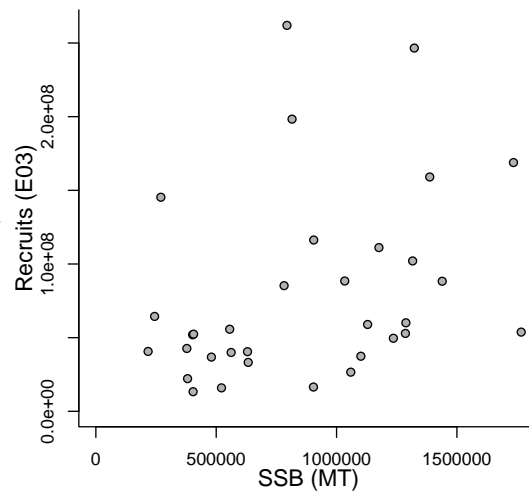
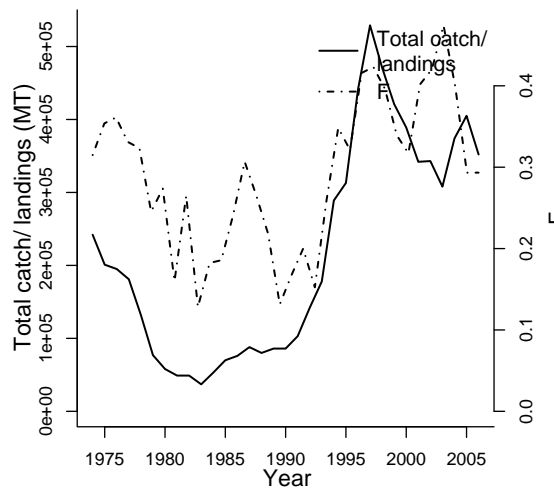
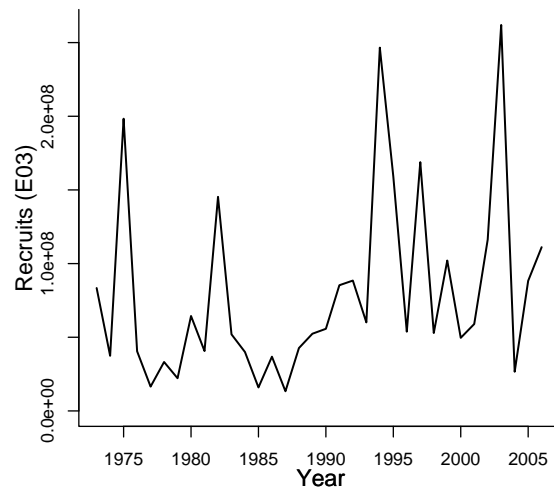
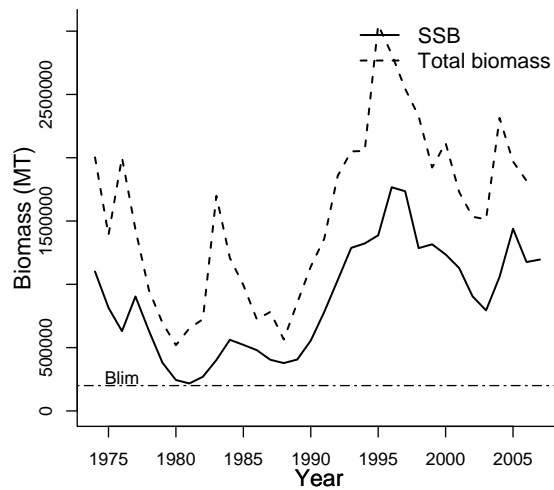
Detail	Value
Management body	ICES
Assessment group	Baltic Fisheries Assessment Working Group
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1973-2007
Document	ICES-WGBFAS-2007.pdf (pdf in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	1	yr
TB-AGE-yr	1+	yr
A50-yr	AVAILABLE	yr
M-1/T	AVAILABLE	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Fpa-1/T (F)	0.4	1/T
Blim-MT (SSB)	200000	MT
SSB_{2007}/B_{lim}	5.980	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1974	1973	1974	1974	1974
Maximum year	2007	2006	2007	2006	2006
Time series minimum	217000	13334000	0.1281	519000	37000
Time series maximum	1767000	261984000	0.4743	3049000	529000
Units	MT	E03	1/T	MT	MT



Assessment of VIIIc-IXa fourspotted megrim (*Lepidorhombus boscii*)

Assessment ID: WGHMM-FMEG8c9a-1986-2006-JENNINGS

Area ID: multinational-ICES-VIIIc-IXa

General assessment details.

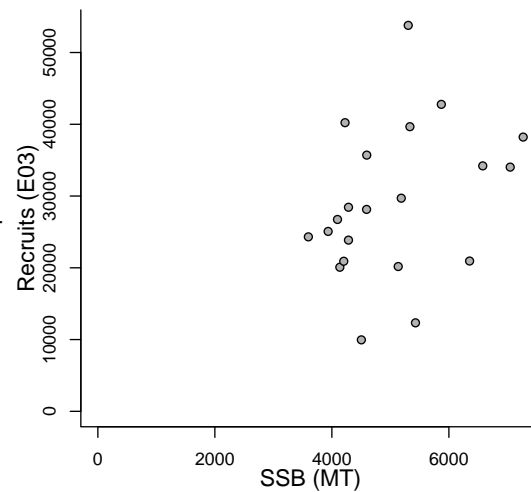
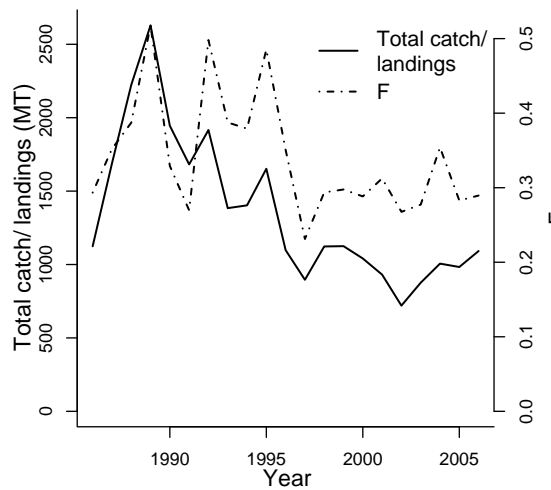
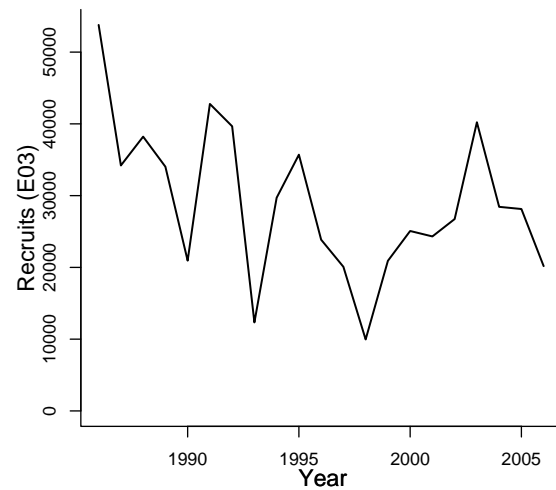
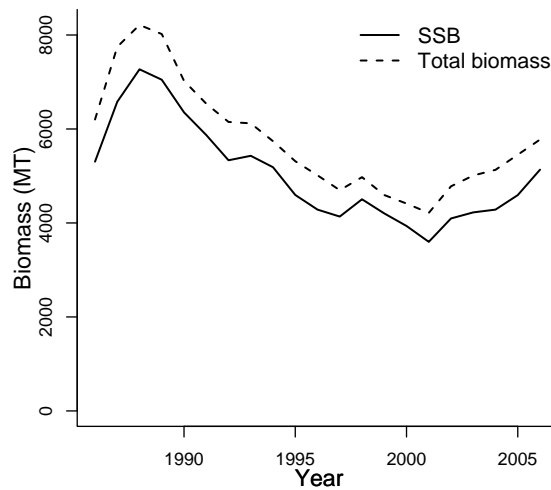
Detail	Value
Management body	ICES
Assessment group	Working Group on the Assessment of Southern Shelf Stocks of Hake, Monk and Megrim
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1986-2006
Document	ICES-WGHMM-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
A50-yr	AVAILABLE	yr
REC-AGE		
SSB-AGE-yr		
TB-AGE-yr		
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1986	1986	1986	1986	1986
Maximum year	2006	2006	2006	2006	2006
Time series minimum	3598	9961	0.2312	4214	720
Time series maximum	7270	53785	0.5178	8214	2629
Units	MT	E03	1/T	MT	MT



Assessment of II-IIIa-IV-VI-VII-VIIIabc hake (*Merluccius merluccius*)

Assessment ID: WGHMM-HAKENRTN-1978-2007-JENNINGS

Area ID: multinational-ICES-II-IIIa-IV-VI-VII-VIIIabc

General assessment details.

Detail	Value
Management body	ICES
Assessment group	Working Group on the Assessment of Southern Shelf Stocks of Hake, Monk and Megrin
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1978-2007
Document	ICES-WGHMM-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

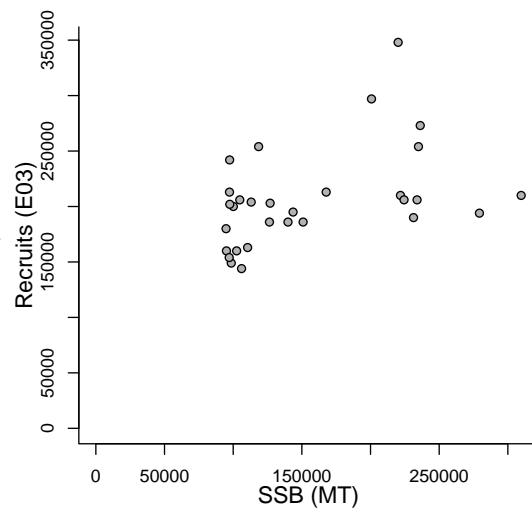
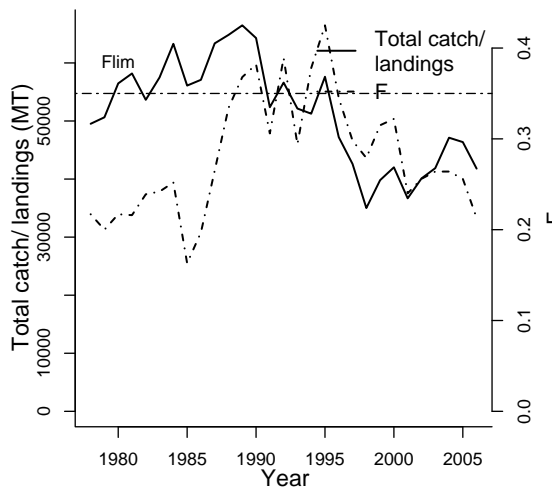
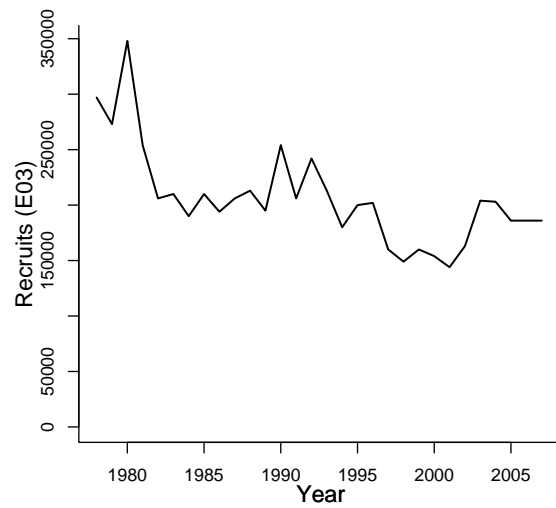
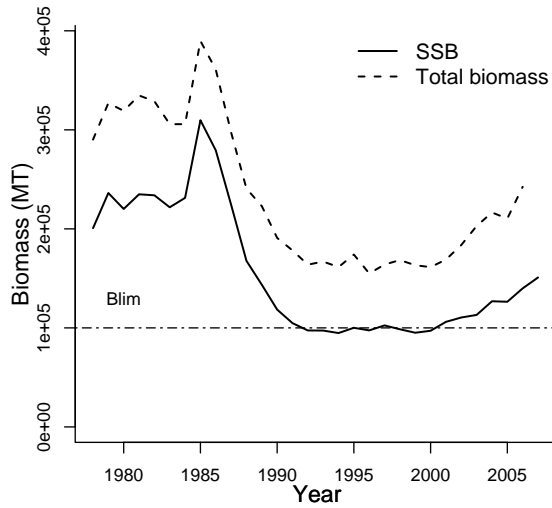
Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	0	yr
TB-AGE-yr	0+	yr
A50-yr	AVAILABLE	yr
M-1/T	0.2	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Flim-1/T (F)	0.35	1/T
Fpa-1/T (F)	0.25	1/T
Blim-MT (SSB)	100000	MT
SSB_{2007}/B_{lim}	1.509	
F_{2006}/F_{lim}	0.609	

Time series minima and maxima

	SSB	R	F	TB	Catch
Minimum year	1978	1978	1978	1978	1978
Maximum year	2007	2007	2006	2006	2006
Time series minimum	94800	144000	0.163	154969	35010
Time series maximum	309700	348000	0.425	389774	66472
Units	MT	E03	1/T	MT	MT



Assessment of VIIIc-IXa hake (*Merluccius merluccius*)

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

Area ID: multinational-ICES-VIIIc-IXa

General assessment details.

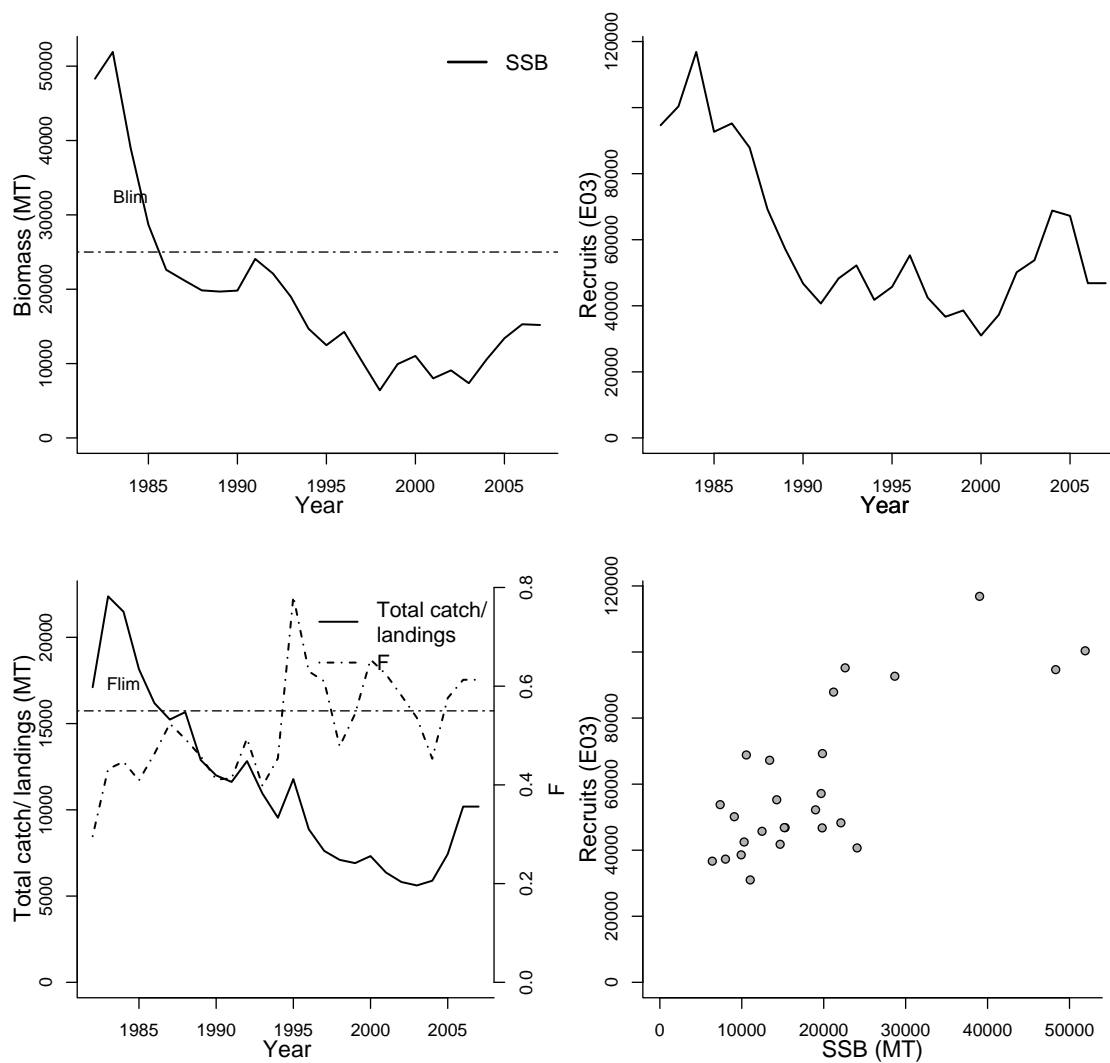
Detail	Value
Management body	ICES
Assessment group	Working Group on the Assessment of Southern Shelf Stocks of Hake, Monk and Megrin
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1982-2007
Document	ICES-WGHMM-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	0	yr
TB-AGE-yr	0+	yr
A50-yr	AVAILABLE	yr
M-1/T	0.2	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Flim-1/T (F)	0.55	1/T
Fpa-1/T (F)	0.44	1/T
Blim-MT (SSB)	25000	MT
SSB_{2007}/B_{lim}	0.608	
F_{2007}/F_{lim}	1.115	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1982	1982	1982		1982
Maximum year	2007	2007	2007		2007
Time series minimum	6401	31003	0.296		5617
Time series maximum	51913	116850	0.782		22376
Units	MT	E03	1/T	MT	MT



Assessment of VIIIc-IXa megrim (*Lepidorhombus whiffiagonis*)

Assessment ID: WGHMM-MEG8c9a-1985-2007-JENNINGS

Area ID: multinational-ICES-VIIIc-IXa

General assessment details.

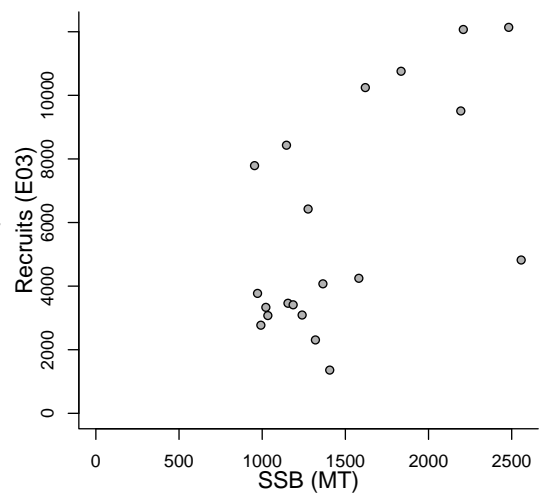
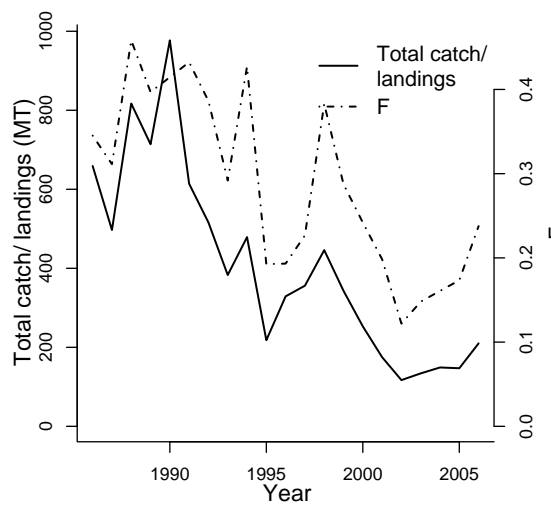
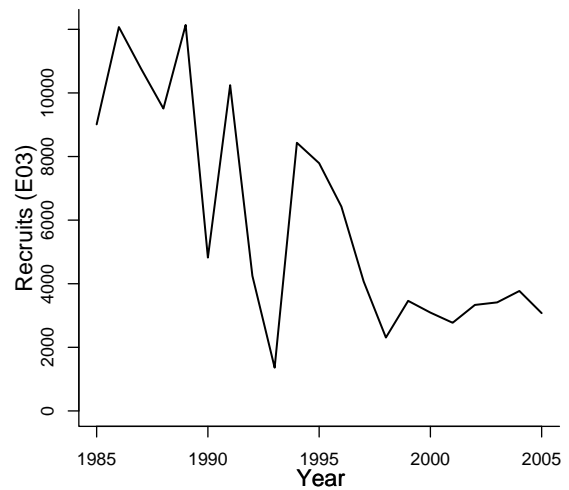
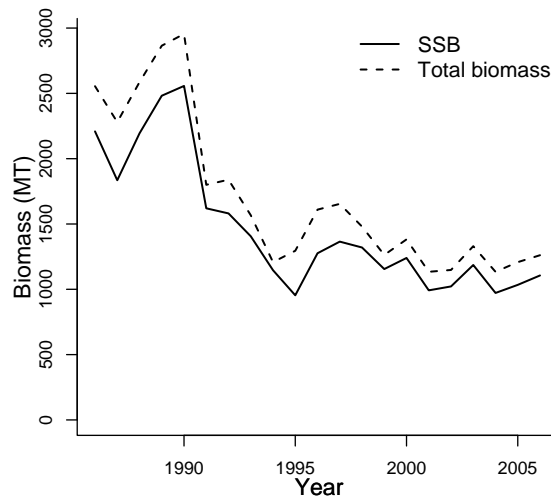
Detail	Value
Management body	ICES
Assessment group	Working Group on the Assessment of Southern Shelf Stocks of Hake, Monk and Megrim
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1985-2007
Document	ICES-WGHMM-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
REC-AGE		
SSB-AGE-yr		
TB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1986	1985	1986	1986	1986
Maximum year	2006	2005	2006	2006	2006
Time series minimum	954	1360	0.1219	1134	117
Time series maximum	2557	12138	0.4583	2955	977
Units	MT	E03	1/T	MT	MT



Assessment of Bay of Biscay common european sole (*Solea vulgaris*)

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

Area ID: multinational-ICES-VIII

General assessment details.

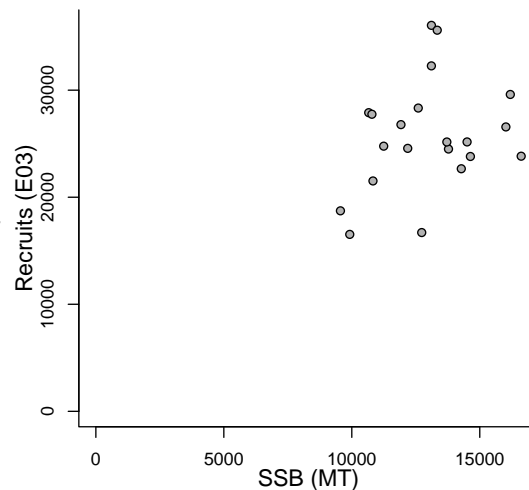
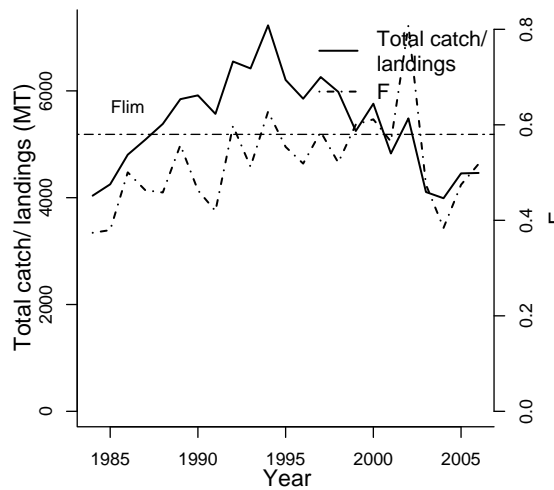
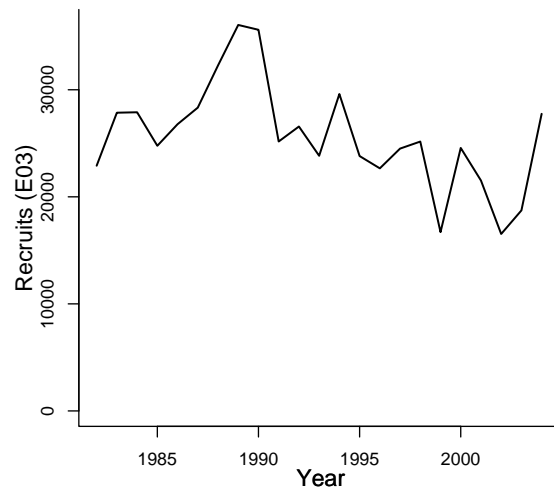
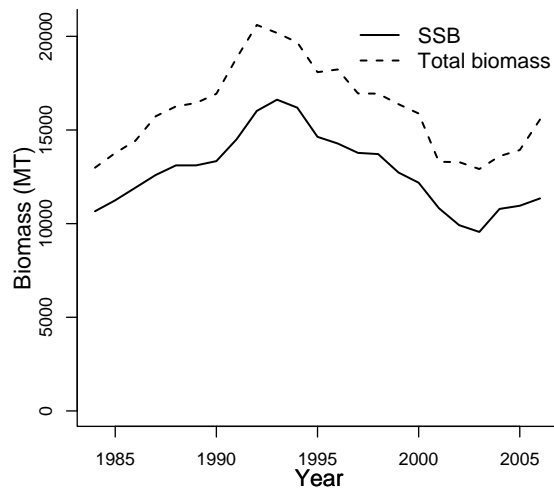
Detail	Value
Management body	ICES
Assessment group	Working Group on the Assessment of Southern Shelf Stocks of Hake, Monk and Megrin
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1982-2006
Document	ICES-WGHMM-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	2	yr
TB-AGE-yr	2+	yr
A50-yr	AVAILABLE	yr
M-1/T	0.1	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
F _{lim} -1/T (F)	0.58	1/T
F _{pa} -1/T (F)	0.42	1/T
F ₂₀₀₆ /F _{lim}	0.893	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1984	1982	1984	1984	1984
Maximum year	2006	2004	2006	2006	2006
Time series minimum	9556	16530	0.3739	12915	3990
Time series maximum	16618	36055	0.8083	20609	7227
Units	MT	E03	1/T	MT	MT



Assessment of Bay of Biscay anchovy (*Engraulis encrasicolus*)

Assessment ID:WGMHSA-ANCHOBAYB-1986-2007-JENNINGS

Area ID: multinational-ICES-VIII

General assessment details.

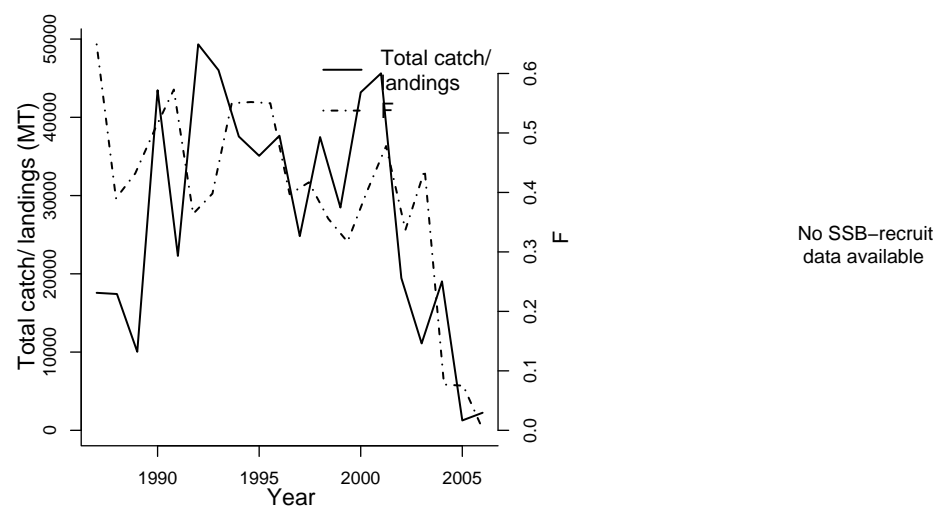
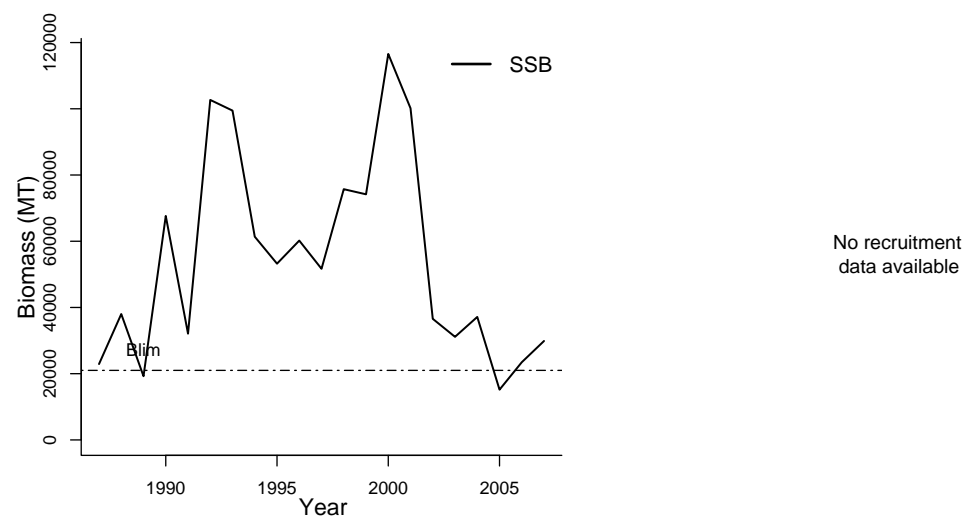
Detail	Value
Management body	ICES
Assessment group	Working Group on the Assessment of Mackerel
Assessment authors	Anon
Assessment method	Bayesian Biomass Model
Publication year	2007
Timeseries span	1986-2007
Document	ICES-WGMHSA-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	1	yr
REC-AGE-yr	1	yr
TB-AGE-yr	1+	yr
A50-yr	1	yr
M-1/T	1.2	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Fpa-1/T (F)	1.1	1/T
Blim-MT (SSB)	21000	MT
SSB_{2007}/B_{lim}	1.423	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1987		1987		1987
Maximum year	2007		2007		2006
Time series minimum	15177		0.002		1264
Time series maximum	116561		0.649		49325
Units	MT		1/T		MT



Assessment of IIa-IIIabd-IV-Vb-VI-VII-VIIIabcde-XII-XIV-Ixa mackerel (*Scomber scombrus*)

Assessment ID:WGMHSA-MACKNEICES-1972-2007-JENNINGS

Area ID:

multinational-ICES-IIa-IIIabd-IV-Vb-VI-VII-VIIIabcde-XII-XIV-Ixa

General assessment details.

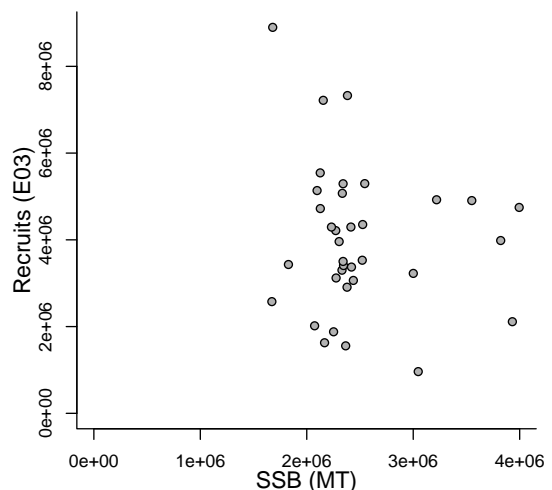
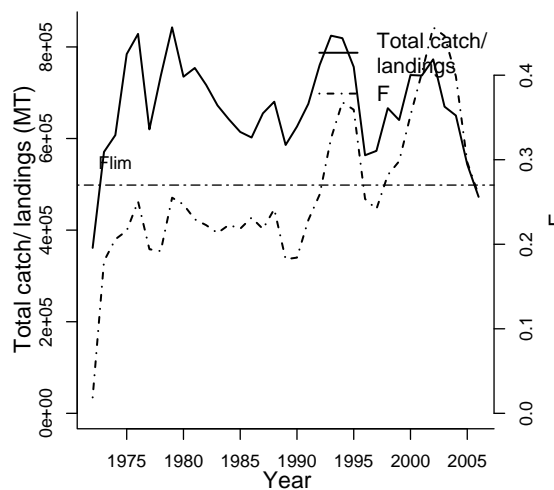
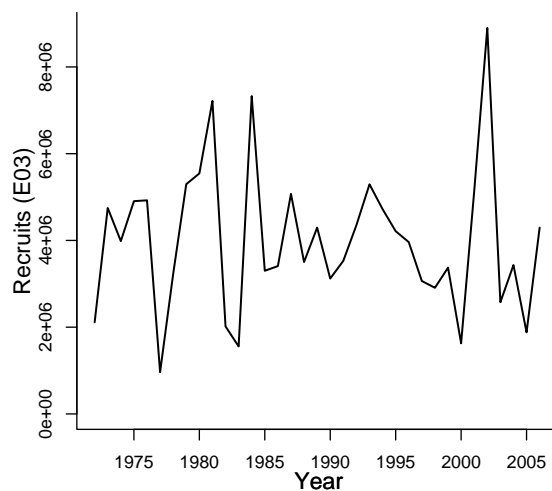
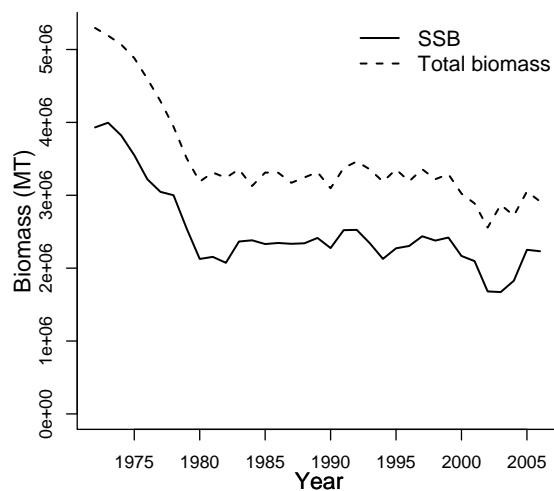
Detail	Value
Management body	ICES
Assessment group	Working Group on the Assessment of Mackerel
Assessment authors	Anon
Assessment method	Integrated Catch-at-age Analysis
Publication year	2007
Timeseries span	1972-2007
Document	ICES-WGMHSA-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	0	yr
TB-AGE-yr	0+	yr
A50-yr	AVAILABLE	yr
M-1/T	0.15	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
F _{lim} -1/T (F)	0.27	1/T
F _{pa} -1/T (F)	0.17	1/T
F_{2006}/F_{lim}	0.957	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1972	1972	1972	1972	1972
Maximum year	2006	2006	2006	2006	2006
Time series minimum	1672164	962290	0.0188	2556921	361262
Time series maximum	3995311	8899180	0.4566	5295849	842739
Units	MT	E03	1/T	MT	MT



Assessment of VIIIc-IXa european pilchard (*Sardina pilchardus*)

Assessment ID:WGMHSA-SARDPVIIIc-IXa-1978-2007-JENNINGS

Area ID: multinational-ICES-VIIIc-IXa

General assessment details.

Detail	Value
Management body	ICES
Assessment group	Working Group on the Assessment of Mackerel
Assessment authors	Anon
Assessment method	a flexible age structured model
Publication year	2007
Timeseries span	1978-2007
Document	ICES-WGMHSA-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

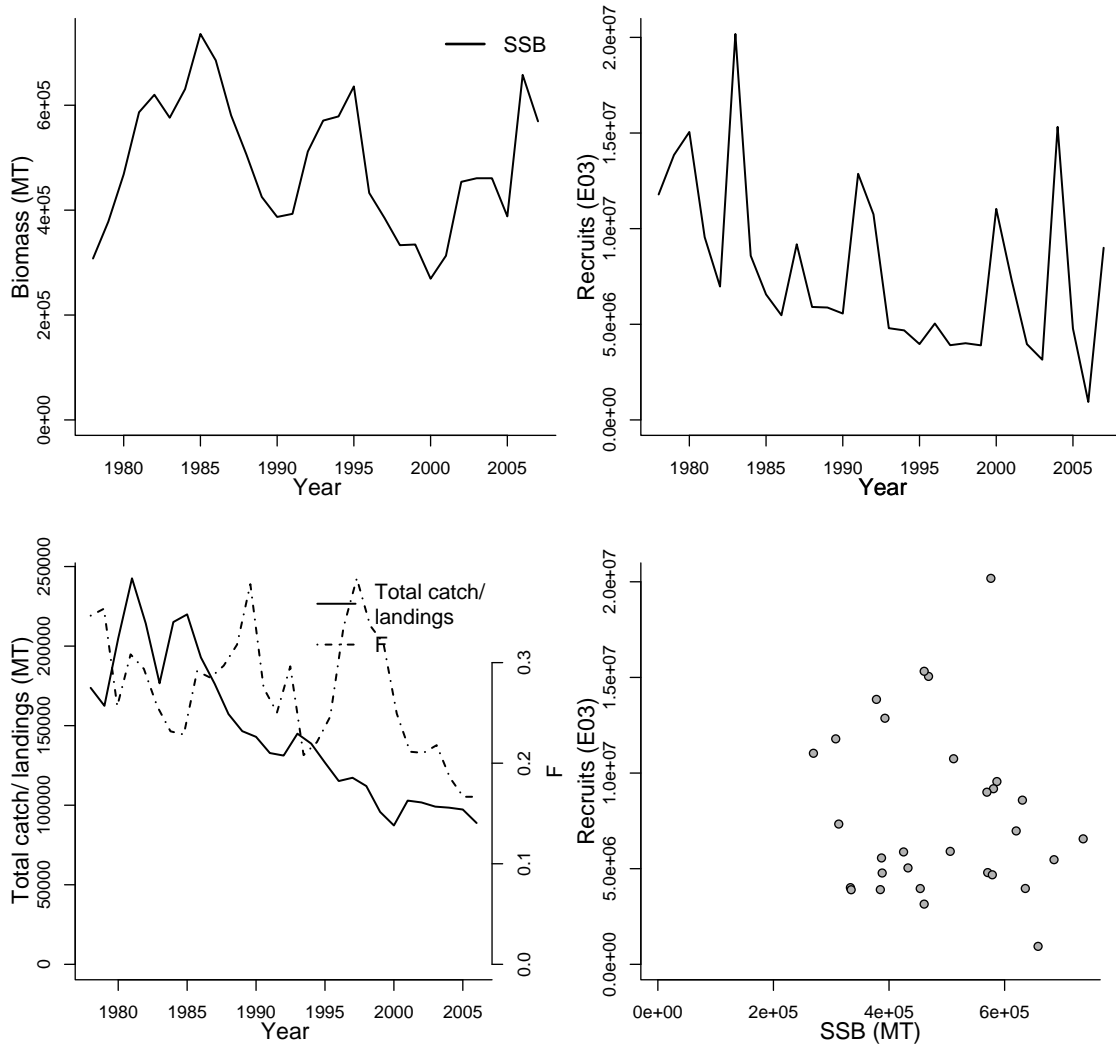
Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	0	yr
TB-AGE-yr	0+	yr
A50-yr	AVAILABLE	yr
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units

Time series minima and maxima

	SSB	R	F	TB	Catch
Minimum year	1978	1978	1978		1978
Maximum year	2007	2007	2007		2006
Time series minimum	269194	939973	0.1666		87272
Time series maximum	735950	20179479	0.3838		242574
Units	MT	E03	1/T		MT



Assessment of Northeast Atlantic blue whiting (*Micromesistius poutassou*)

Assessment ID:WGNPBW-BWHITNEA-1979-2007-JENNINGS

Area ID: multinational-ICES-I-II-III-IV-V-VI-VII-VIII-IX-XII-XIV

General assessment details.

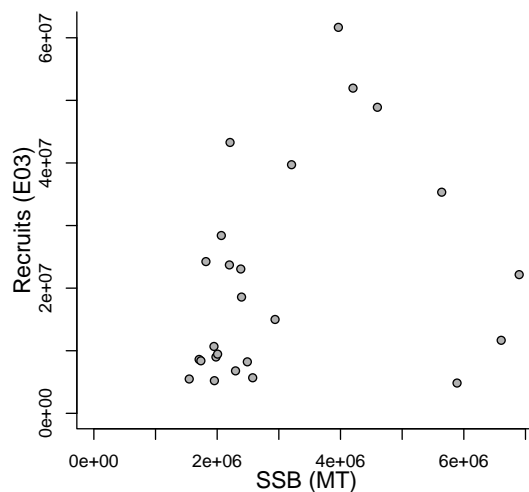
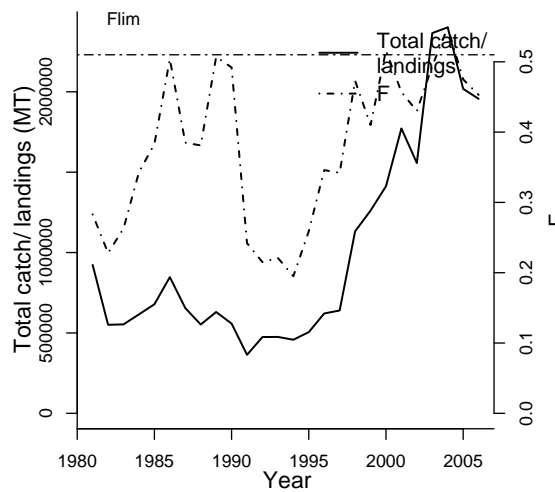
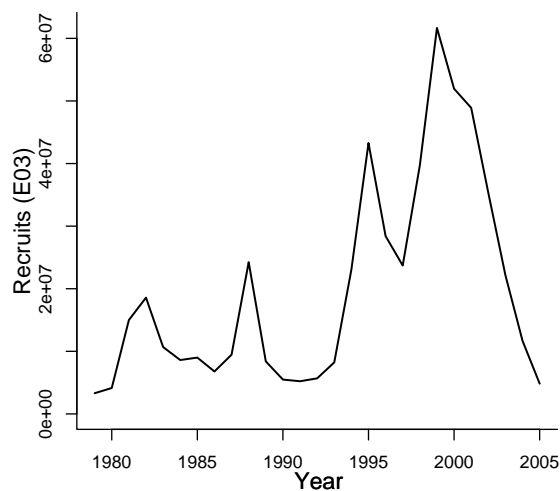
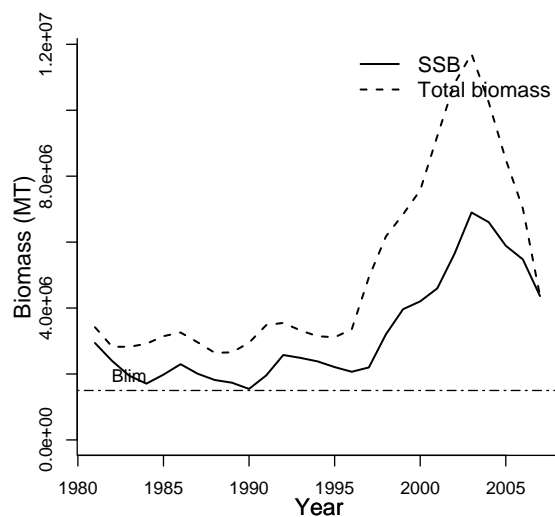
Detail	Value
Management body	ICES
Assessment group	Northern Pelagic and Blue Whiting Fisheries Working Group
Assessment authors	Anon
Assessment method	Stochastic Multi-species (SMS) model
Publication year	2007
Timeseries span	1979-2007
Document	ICES-WGNPBW-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	1	yr
TB-AGE-yr	1+	yr
A50-yr	AVAILABLE	yr
M-1/T	0.2	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Flim-1/T (F)	0.51	1/T
Fpa-1/T (F)	0.32	1/T
Blim-MT (SSB)	1500000	MT
SSB_{2007}/B_{lim}	2.909	
F_{2006}/F_{lim}	0.888	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1981	1979	1981	1981	1981
Maximum year	2007	2005	2006	2007	2006
Time series minimum	1546719	3308512	0.195	2642113	364008
Time series maximum	6897723	61664776	0.549	11708107	2400795
Units	MT	E03	1/T	MT	MT



Assessment of Rockall Bank haddock (*Melanogrammus aeglefinus*)

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

Area ID: multinational-ICES-VIb

General assessment details.

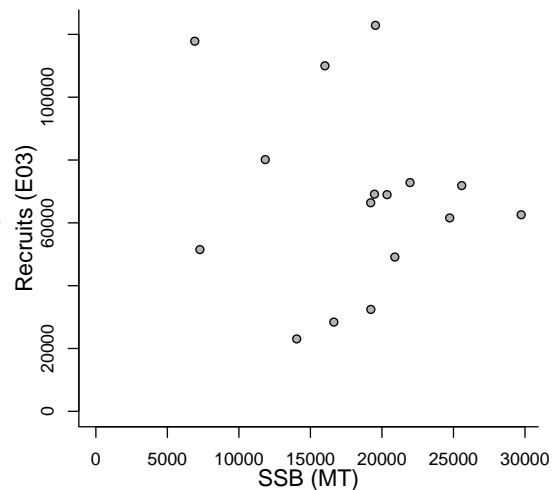
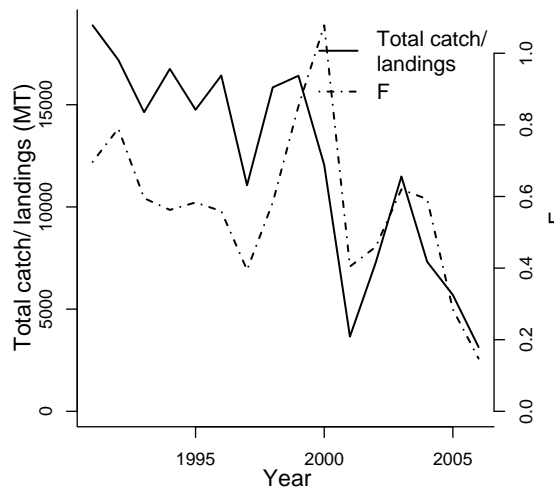
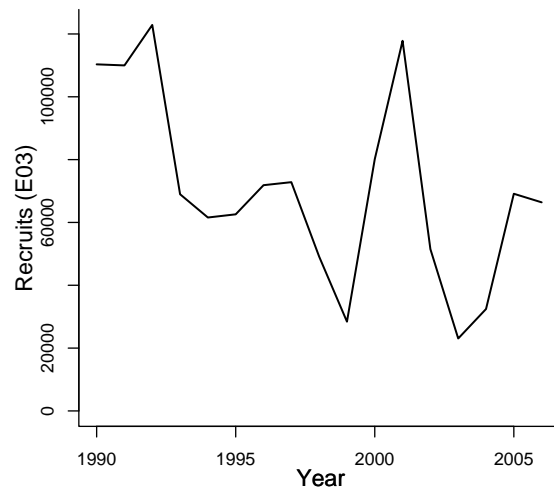
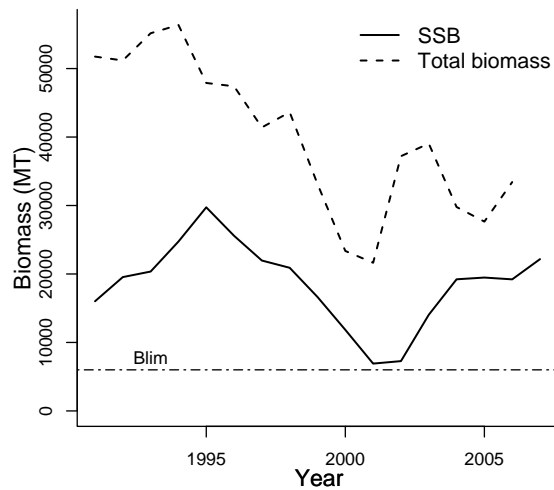
Detail	Value
Management body	ICES
Assessment group	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1990-2007
Document	ICES-WGNSDS-2007.pdf (pdf in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	2.5	yr
REC-AGE-yr	1	yr
TB-AGE-yr	1+	yr
A50-yr	2.5	yr
M-1/T	0.2	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Fpa-1/T (F)	0.4	1/T
Blim-MT (SSB)	6000	MT
SSB_{2007}/B_{lim}	3.695	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1991	1990	1991	1991	1991
Maximum year	2007	2006	2006	2006	2006
Time series minimum	6913	23055	0.1473	21639	3142.339554
Time series maximum	29734	122870	1.07795	56370	18884.29321
Units	MT	E03	1/T	MT	MT



Assessment of ICES VIIb-k haddock (*Melanogrammus aeglefinus*)

Assessment ID:WGSSDS-HADVIIb-k-1993-2006-JENNINGS

Area ID: multinational-ICES-VIIb-k

General assessment details.

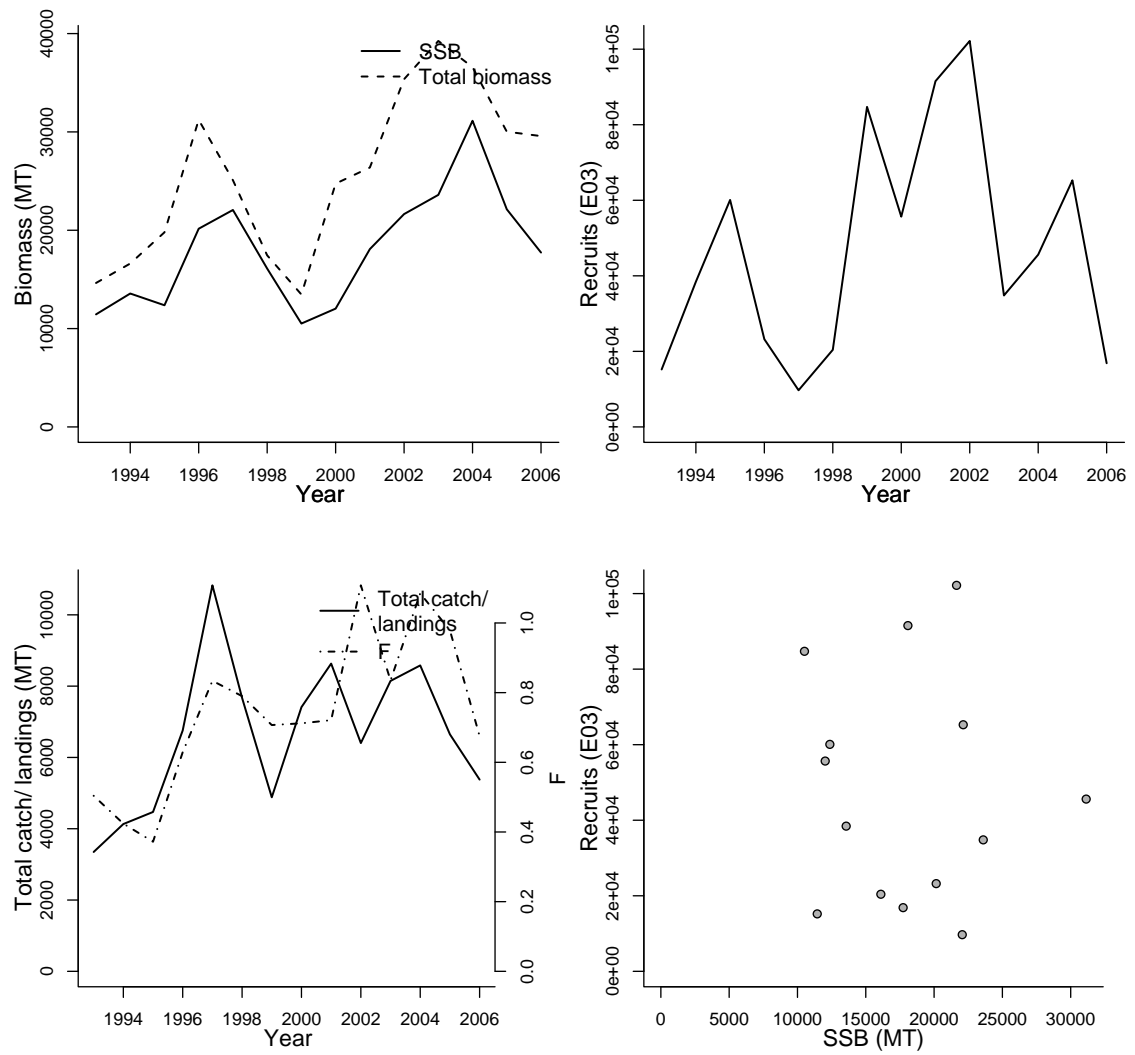
Detail	Value
Management body	ICES
Assessment group	Working Group on the Assessment of Southern Shelf Demersal Stocks
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1993-2006
Document	ICES-WGSSDS-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
A50-yr	2	yr
REC-AGE		
SSB-AGE-yr		
TB-AGE-yr		
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1993	1993	1993	1993	1993
Maximum year	2006	2006	2006	2006	2006
Time series minimum	10512	9702	0.372	13468	3348
Time series maximum	31133	102180	1.108	39251	10827
Units	MT	E03	1/T	MT	MT



Assessment of Celtic Sea european plaice (*Pleuronectes platessa*)

Assessment ID:WGSSDS-PLAICCELT-1976-2006-JENNINGS

Area ID: multinational-ICES-VIIe-k

General assessment details.

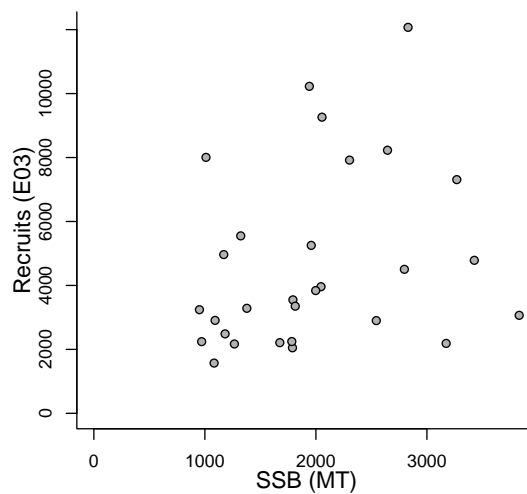
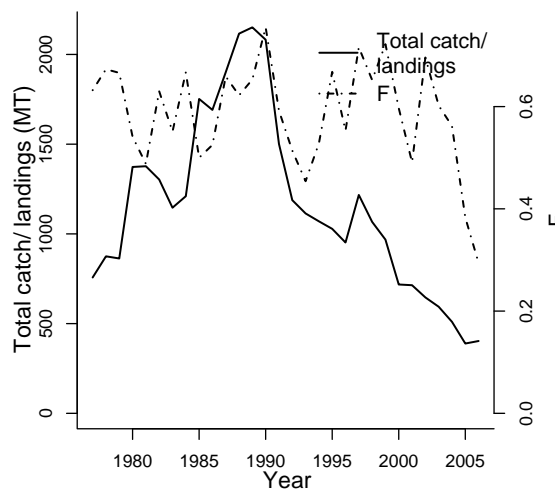
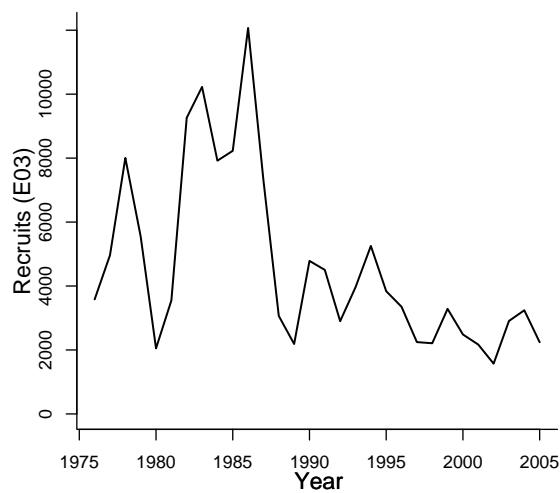
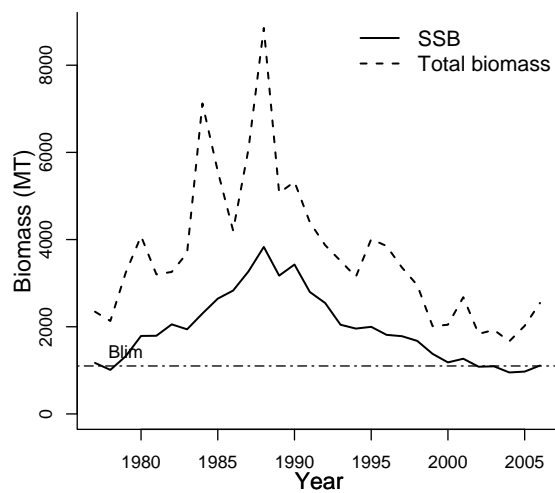
Detail	Value
Management body	ICES
Assessment group	Working Group on the Assessment of Southern Shelf Demersal Stocks
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1976-2006
Document	ICES-WGSSDS-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
M-1/T	0.12	1/T
REC-AGE		
SSB-AGE-yr		
TB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Blim-MT (SSB)	1100	MT
SSB_{2006}/B_{lim}	1.009	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1977	1976	1977	1977	1977
Maximum year	2006	2005	2006	2006	2006
Time series minimum	951	1572	0.294	1666	389
Time series maximum	3831	12071	0.755	8855	2151
Units	MT	E03	1/T	MT	MT



Assessment of Western English Channel european plaice (*Pleuronectes platessa*)

Assessment ID:WGSSDS-PLAICECHW-1975-2006-JENNINGS

Area ID: multinational-ICES-VIIe

General assessment details.

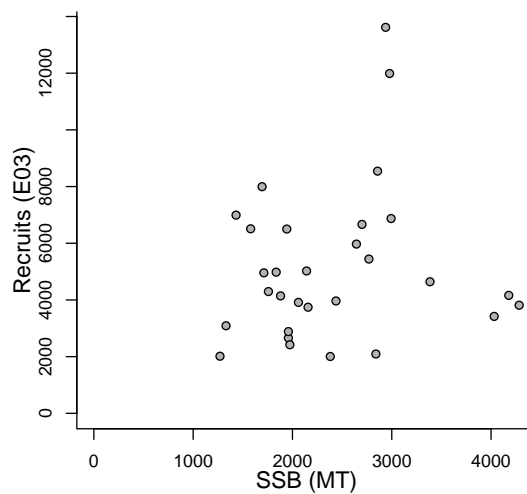
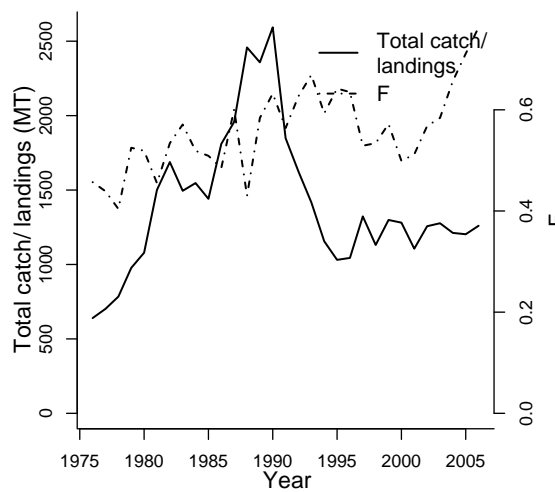
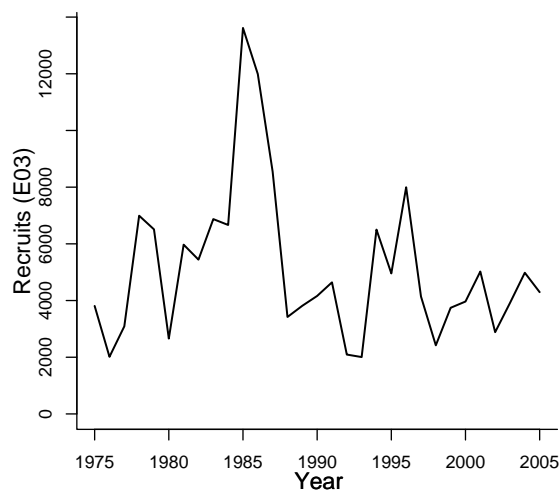
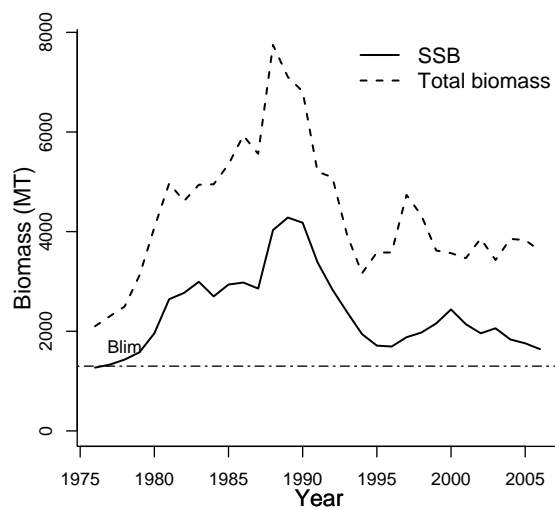
Detail	Value
Management body	ICES
Assessment group	Working Group on the Assessment of Southern Shelf Demersal Stocks
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1975-2006
Document	ICES-WGSSDS-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	1	yr
TB-AGE-yr	1+	yr
A50-yr	AVAILABLE	yr
M-1/T	0.12	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Fpa-1/T (F)	0.45	1/T
Blim-MT (SSB)	1300	MT
SSB_{2006}/B_{lim}	1.262	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1976	1975	1976	1976	1976
Maximum year	2006	2005	2006	2006	2006
Time series minimum	1270	2006	0.404	2101	640
Time series maximum	4283	13617	0.763	7747	2593
Units	MT	E03	1/T	MT	MT



Assessment of Celtic Sea common european sole (*Solea vulgaris*)

Assessment ID:WGSSDS-SOLECS-1970-2006-JENNINGS

Area ID: multinational-ICES-VIIIf-g

General assessment details.

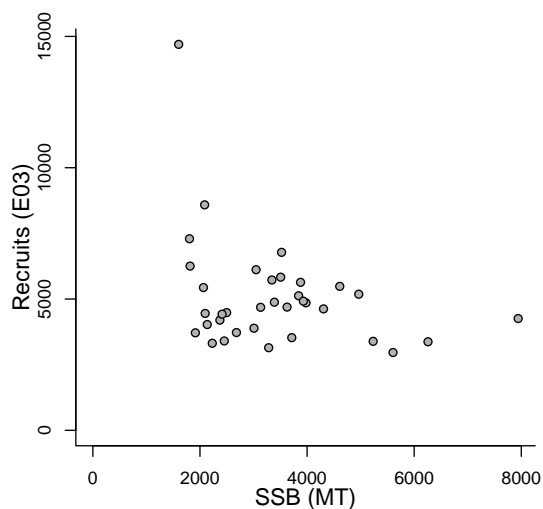
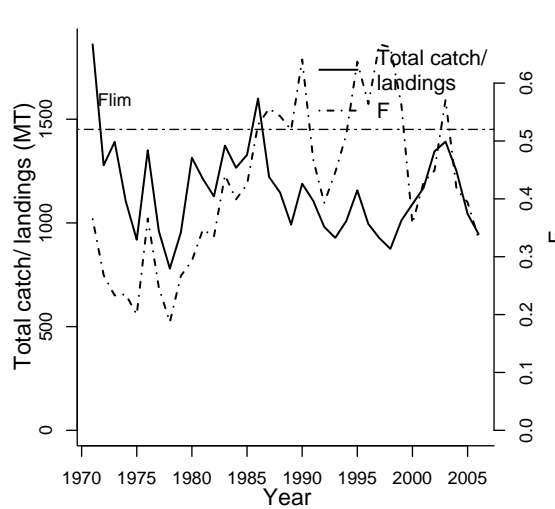
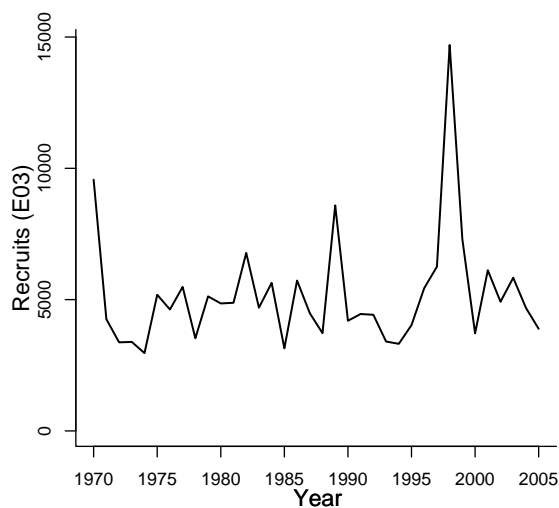
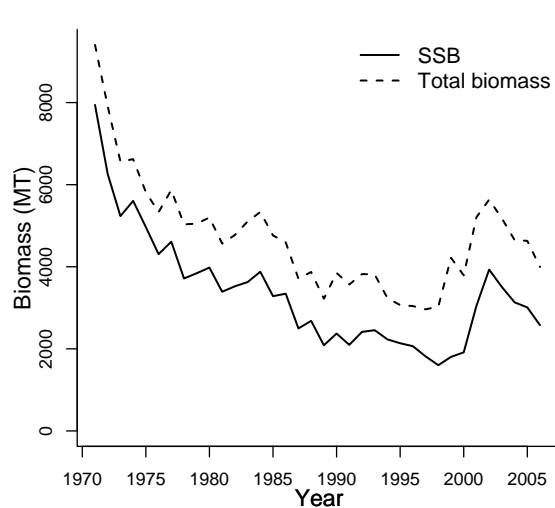
Detail	Value
Management body	ICES
Assessment group	Working Group on the Assessment of Southern Shelf Demersal Stocks
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1970-2006
Document	ICES-WGSSDS-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	1	yr
TB-AGE-yr	1+	yr
A50-yr	AVAILABLE	yr
M-1/T	0.1	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Flim-1/T (F)	0.52	1/T
Fpa-1/T (F)	0.37	1/T
F_{2006}/F_{lim}	0.637	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1971	1970	1971	1971	1971
Maximum year	2006	2005	2006	2006	2006
Time series minimum	1602	2964	0.187	2963	780
Time series maximum	7942	14698	0.667	9404	1861
Units	MT	E03	1/T	MT	MT



Assessment of Western English Channel common european sole (*Solea vulgaris*)

Assessment ID:WGSSDS-SOLEVIIe-1968-2006-JENNINGS

Area ID: multinational-ICES-VIIe

General assessment details.

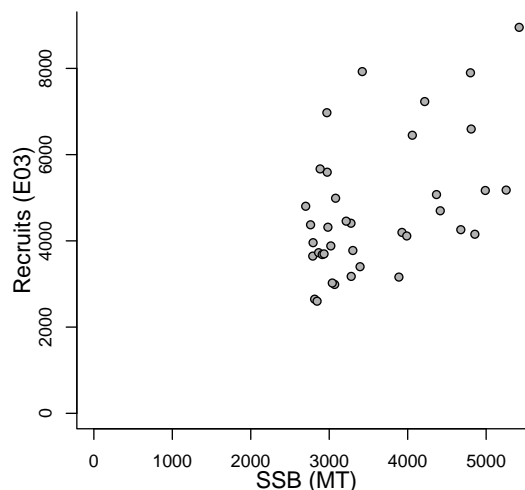
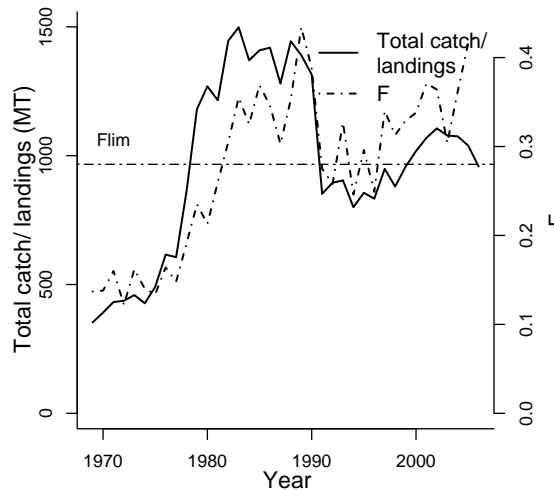
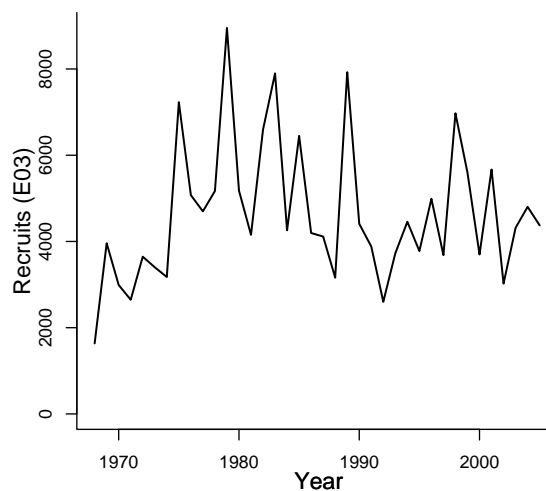
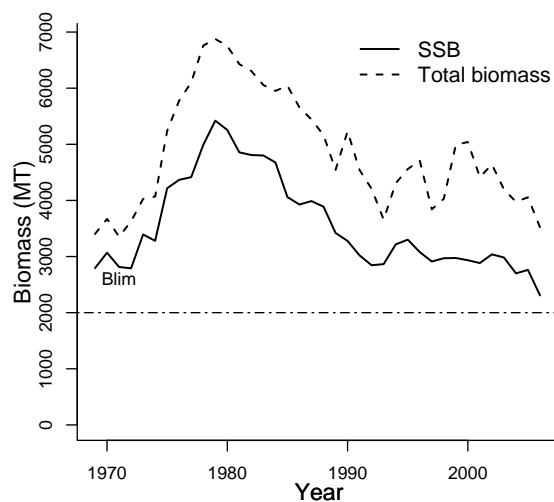
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Management body	ICES
Assessment group	Working Group on the Assessment of Southern Shelf Demersal Stocks
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1968-2006
Document	ICES-WGSSDS-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	1	yr
TB-AGE-yr	1+	yr
A50-yr	AVAILABLE	yr
M-1/T	0.1	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Flim-1/T (F)	0.28	1/T
Fpa-1/T (F)	0.2	1/T
Blim-MT (SSB)	2000	MT
SSB_{2006}/B_{lim}	1.154	
F_{2006}/F_{lim}	1.521	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1969	1968	1969	1969	1969
Maximum year	2006	2005	2006	2006	2006
Time series minimum	2308	1635	0.122	3354	353
Time series maximum	5421	8952	0.434	6877	1498
Units	MT	E03	1/T	MT	MT



Assessment of Celtic Sea whiting (*Merlangius merlangus*)

Assessment ID:WGSSDS-WHITVIIek-1982-2007-JENNINGS

Area ID: multinational-ICES-VIIe-k

General assessment details.

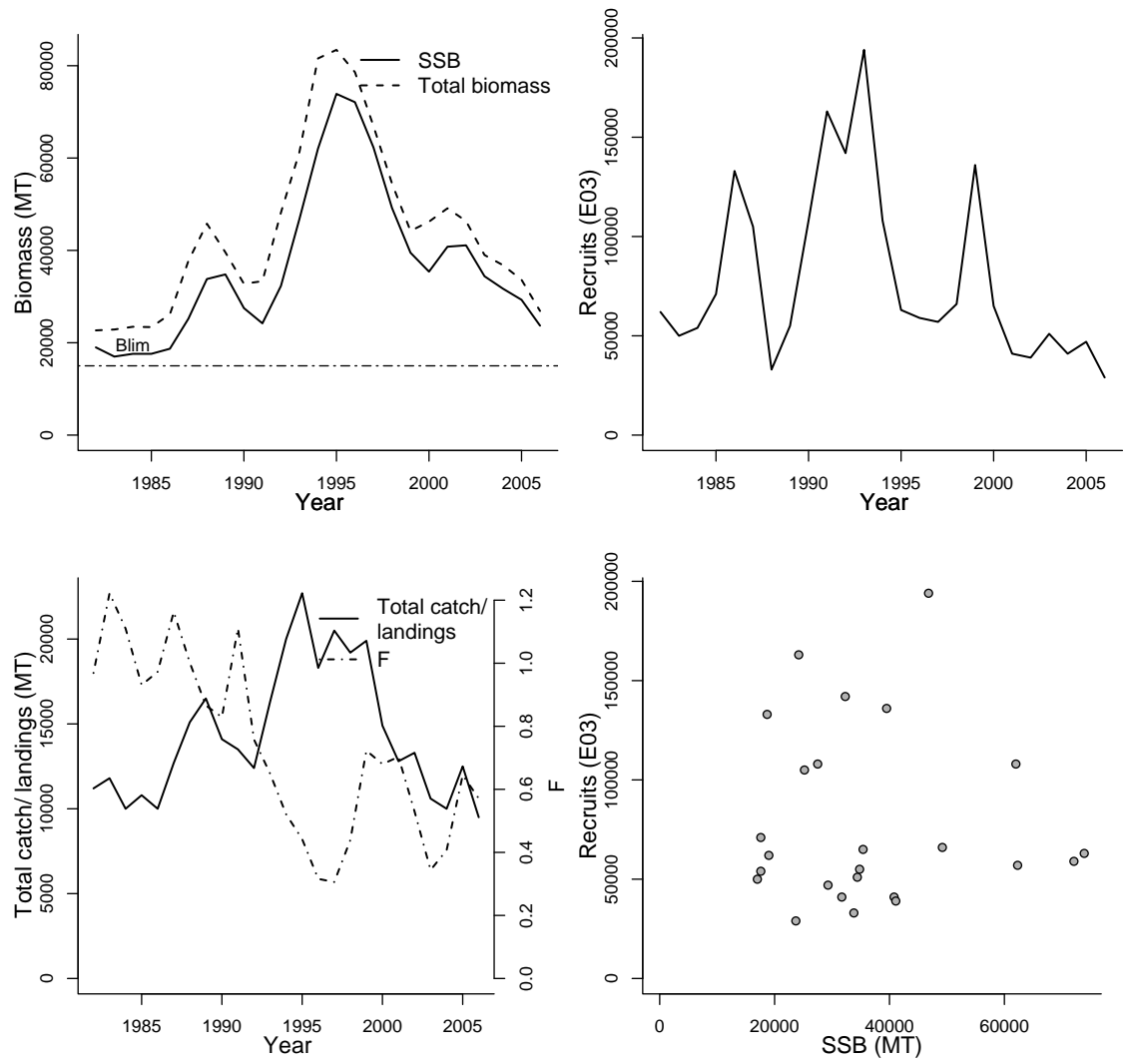
Detail	Value
Management body	ICES
Assessment group	Working Group on the Assessment of Southern Shelf Demersal Stocks
Assessment authors	Anon
Assessment method	Extended Survivor Analysis
Publication year	2007
Timeseries span	1982-2007
Document	ICES-WGSSDS-2007.pdf (pdf not in database)
Recorder	JENNINGS
Date entered	2009-03-10

Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	AVAILABLE	yr
REC-AGE-yr	0	yr
TB-AGE-yr	0+	yr
A50-yr	AVAILABLE	yr
M-1/T	0.2	1/T
F-AGE-yr		
M		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	Value	Units
Blim-MT (SSB)	15000	MT
SSB_{2006}/B_{lim}	1.580	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1982	1982	1982	1982	1982
Maximum year	2006	2006	2006	2006	2006
Time series minimum	17000	29000	0.306	22680	9500
Time series maximum	73900	194000	1.222	83433	22700
Units	MT	E03	1/T	MT	MT



MAP KEY:

- Large Marine Ecosystems
Watershed Bounds
Political Borders

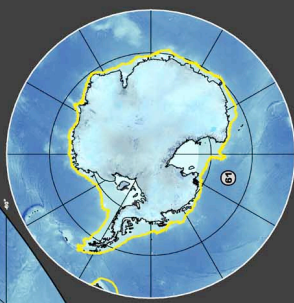


Data Sources:
 Bathymetry (2-minute) : Smith and Sandwell, 1997
 Bathymetry (5-minute) : NAVOCEANO, DSDMS
 Watersheds (HYDRO 1K) : USGS First Data Center
 Fernestral Image : ESRI



LARGE MARINE ECOSYSTEMS are areas of the ocean characterized by distinct bathymetry, hydrography, productivity, and trophic interactions. They annually produce 95 percent of the world's fish catch. They are national and regional focal areas of a global effort to reduce the degradation of linked watersheds, marine resources, and coastal environments from pollution, habitat loss, and over-fishing.

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SOUTH POLAR REGION