Dear Trevor,

Thank you sincerely for submitting assessments to the Myers II database. We have entered 17 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.

Contents

Assessment of Pacific Coast arrowtooth flounder (*Reinhardtius stomias*)

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

Area ID: USA-NMFS-PCOAST

General assessment details.

Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	Kaplan, I.C.
Assessment method	Stock Synthesis v2.0 model
Publication year	2007
Timeseries span	1916-2007
Document	NWFSC-ARFLOUNDPCOAST-2007-Arrowtooth flounder.pdf.pdf (pdf not in database)
Recorder	BRANCH
Date entered	2009-03-10

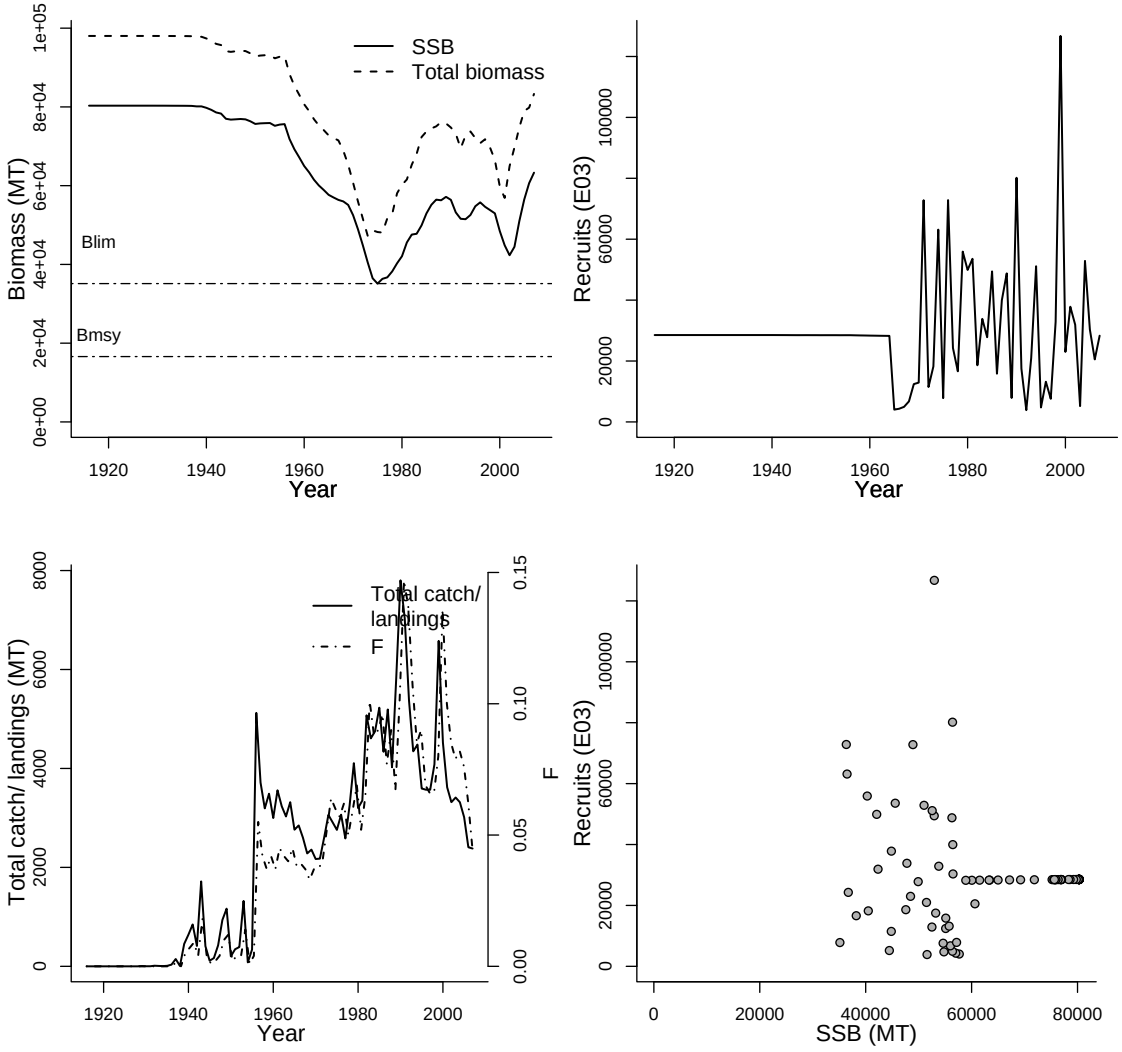
Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
SSB-AGE-yr	4.5	yr
REC-AGE-yr	0	yr
TB-AGE-yr	3+	yr
L50-cm	37.3	cm
M-1/yr	0.166	1/yr
F-AGE-yr		
M		
A50-yr		
MORATOR-yr-yr		
LME		

Reference points

Parameter	Value	Units
BH-h-dimensionless	0.902	dimensionless
Blim-MT (SSB)	35129	MT
Bmsy-MT (TB)	16593	MT
Fmsy-1/yr (F)	0.21	1/yr
SSB0-MT (SSB)	80313	MT
R0-E03 (R)	28528	E03
SSBtarget-MT (SSB)	30780	MT
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.11	1/yr
SPRtarget-ratio (SPR)	0.4	ratio
SSB_{2007}/B_{lim}	1.802	
TB_{2007}/B_{msy}	5.020	
F_{2006}/F_{msy}	0.210	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1916	1916	1916	1916	1916
Maximum year	2007	2007	2006	2007	2007
Time series minimum	35128.8	3867.56	0	47228.2	0
Time series maximum	80313.5	126747	0.147	98022.2	7802
Units	MT	E03	1/yr	MT	MT



Assessment of Northern Pacific Coast black rockfish (*Sebastes melanops*)

Assessment ID:NWFSC-BLACKROCKNPCOAST-1914-2006-BRANCH

Area ID: USA-NMFS-NPCOAST

General assessment details.

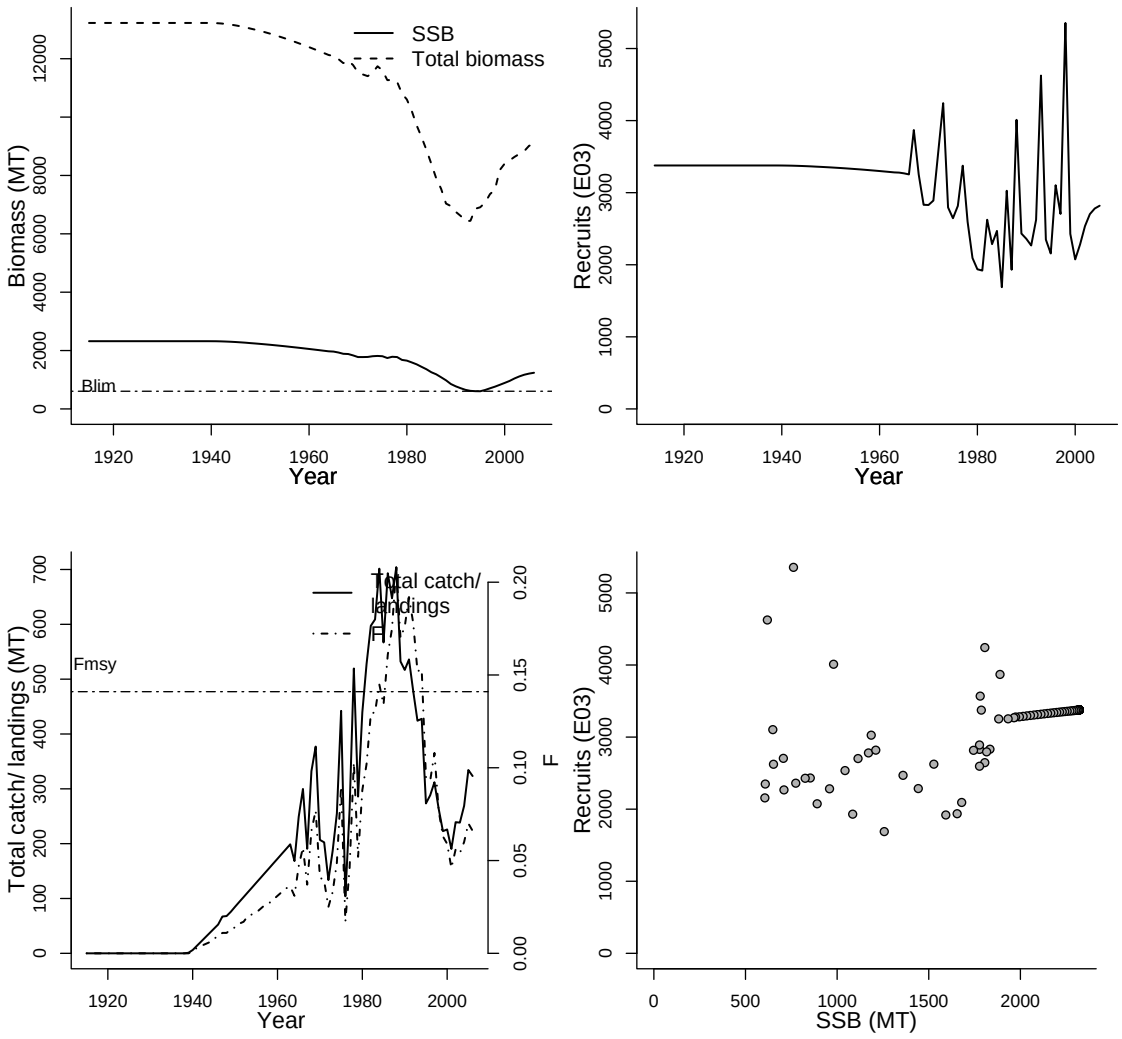
Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	Wallace F.R.
Assessment method	Stock Synthesis v2.0 model
Publication year	2008
Timeseries span	1914-2006
Document	NWFSC-BLACKROCKNPCOAST-2007-Black rockfish NOR WA.pdf.pdf (pdf not in database)
Recorder	BRANCH
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-yr	1	yr
TB-AGE-yr	0+	yr
L50-cm	43.7	cm
M-1/yr	0.16	1/yr
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	**Value**	**Units**
BH-h-dimensionless	0.6	dimensionless
Blim-MT (SSB)	606	MT
SSBmsy-E06larvae (SSB)	698.62	E06larvae
Fmsy-1/yr (F)	0.141	1/yr
SSB0-MT (SSB)	2321	MT
R0-E03 (R)	3377	E03
SSBtarget-MT (SSB)	928.4	MT
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.065	1/yr
SPRtarget-ratio (SPR)	0.4	ratio
MSY-MT (TB)	700	MT
SSB_{2006}/B_{lim}	2.045	
F_{2006}/F_{msy}	0.468	
SSB_{2006}/SSB_{msy}	1.774	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1915	1914	1915	1915	1915
Maximum year	2006	2005	2006	2006	2006
Time series minimum	605.66	1688.87	0	6437	0
Time series maximum	2320.71	5354.79	0.208	13226	703.9
Units	MT	E03	1/yr	MT	MT



Assessment of Southern Pacific Coast black rockfish (*Sebastes melanops*)

Assessment ID:NWFSC-BLACKROCKSPCOAST-1915-2007-BRANCH

Area ID: USA-NMFS-SPCOAST

General assessment details.

Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	Sampson, D.B.
Assessment method	Stock Synthesis v2.0 model
Publication year	2007
Timeseries span	1915-2007
Document	NWFSC-BLACKROCKSPCOAST-2007-Black rockfish OR CA.pdf.pdf (pdf not in database)
Recorder	BRANCH
Date entered	2009-03-10

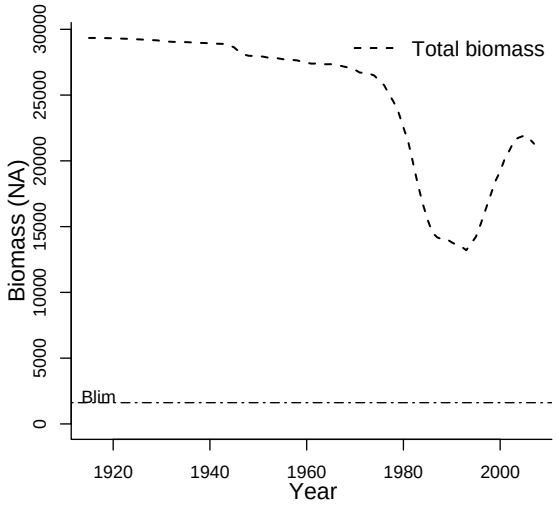
Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

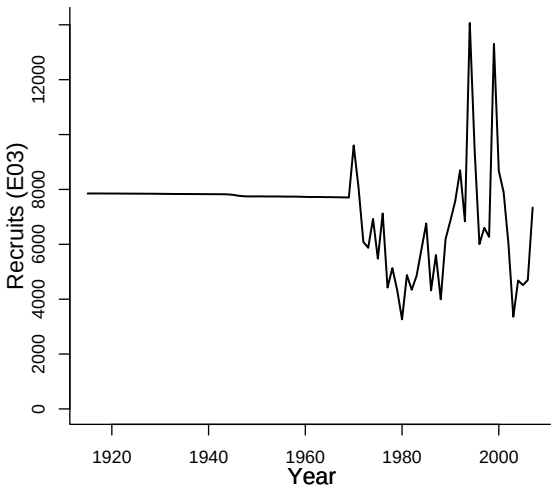
Parameter	Value	Units
REC-AGE-yr	0	yr
TB-AGE-yr	0+	yr
L50-cm	39.53	cm
M-1/yr	0.16	1/yr
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
MORATOR-yr-yr		
LME		

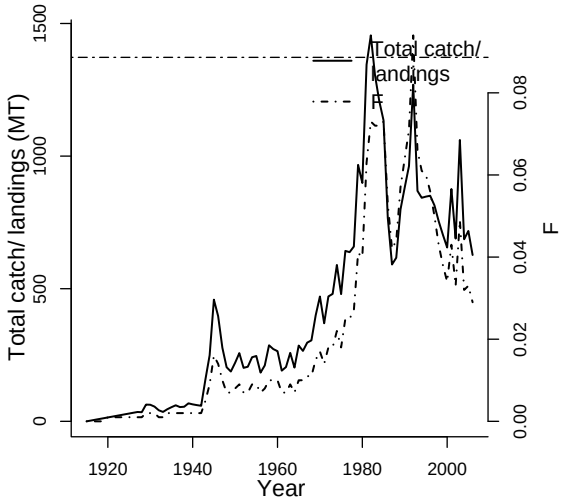
Reference points

Parameter	Value	Units
BH-h-dimensionless	0.6	dimensionless
Blim-MT (SSB)	1614	MT
SSBmsy-E06larvae (SSB)	1444.6	E06larvae
Fmsy-1/yr (F)	0.08864	1/yr
SSB0-E06larvae (SSB)	4578	E06larvae
R0-E03 (R)	7852	E03
SSBtarget-MT (SSB)	1831.4	MT
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.07227	1/yr
SPRtarget-ratio (SPR)	0.5	ratio
F_{2006}/F_{msy}	0.327	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year		1915	1915	1915	1915
Maximum year		2007	2006	2007	2006
Time series minimum		3264	0	13206	0
Time series maximum		14068	0.094	29344	1455.3
Units		E03	1/yr	MT	MT







No SSB−recruit data available

Assessment of California blue rockfish (*Sebastes mystinus*)

Assessment ID:NWFSC-BLUEROCKCAL-1916-2007-BRANCH

Area ID: USA-NMFS-CAL

General assessment details.

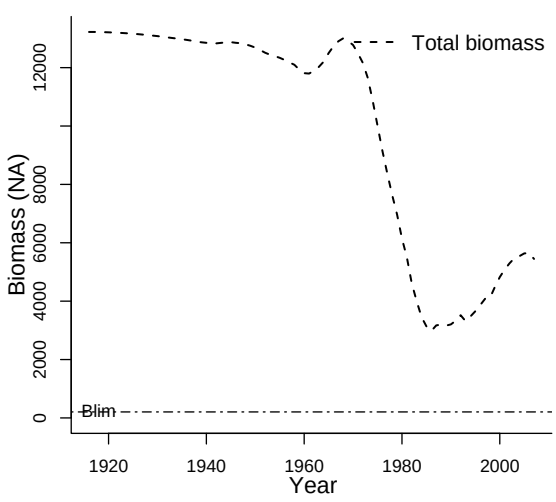
Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	Key, M
Assessment method	Stock Synthesis v2.0 model
Publication year	2008
Timeseries span	1916-2007
Document	NWFSC-BLUEROCKCAL-2007-Blue rockfish CA.pdf.pdf (pdf not in database)
Recorder	BRANCH
Date entered	2009-03-10

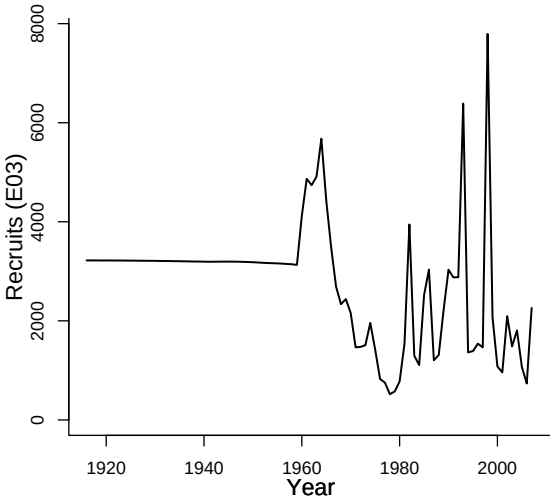
Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

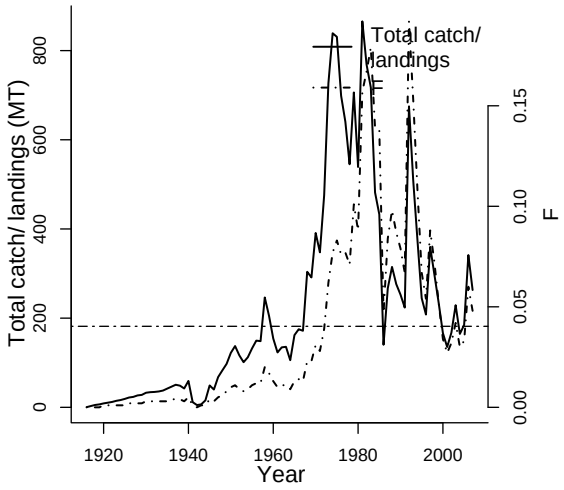
Parameter	Value	Units
REC-AGE-yr	0	yr
TB-AGE-yr	1+	yr
L50-cm	29	cm
M-1/yr	0.12	1/yr
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	**Value**	**Units**
BH-h-dimensionless	0.5	dimensionless
Blim-MT (SSB)	205	MT
SSBmsy-E06larvae (SSB)	831	E06larvae
Fmsy-1/yr (F)	0.0403	1/yr
SSB0-E06larvae (SSB)	2077	E06larvae
R0-E03 (R)	3220	E03
SSBtarget-E06larvae (SSB)	831	E06larvae
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.0403	1/yr
SPRtarget-ratio (SPR)	0.5	ratio
MSY-MT (TB)	275	MT
F_{2007}/F_{msy}	1.191	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year		1916	1916	1916	1916
Maximum year		2007	2007	2007	2007
Time series minimum		519	0	2979	0.4
Time series maximum		7792	0.192	13223	865.6
Units		E03	1/yr	MT	MT







No SSB−recruit data available

Assessment of Southern Pacific Coast bocaccio (*Sebastes paucispinis*)

Assessment ID:NWFSC-BOCACCSPCOAST-1951-2006-BRANCH

Area ID: USA-NMFS-SPCOAST

General assessment details.

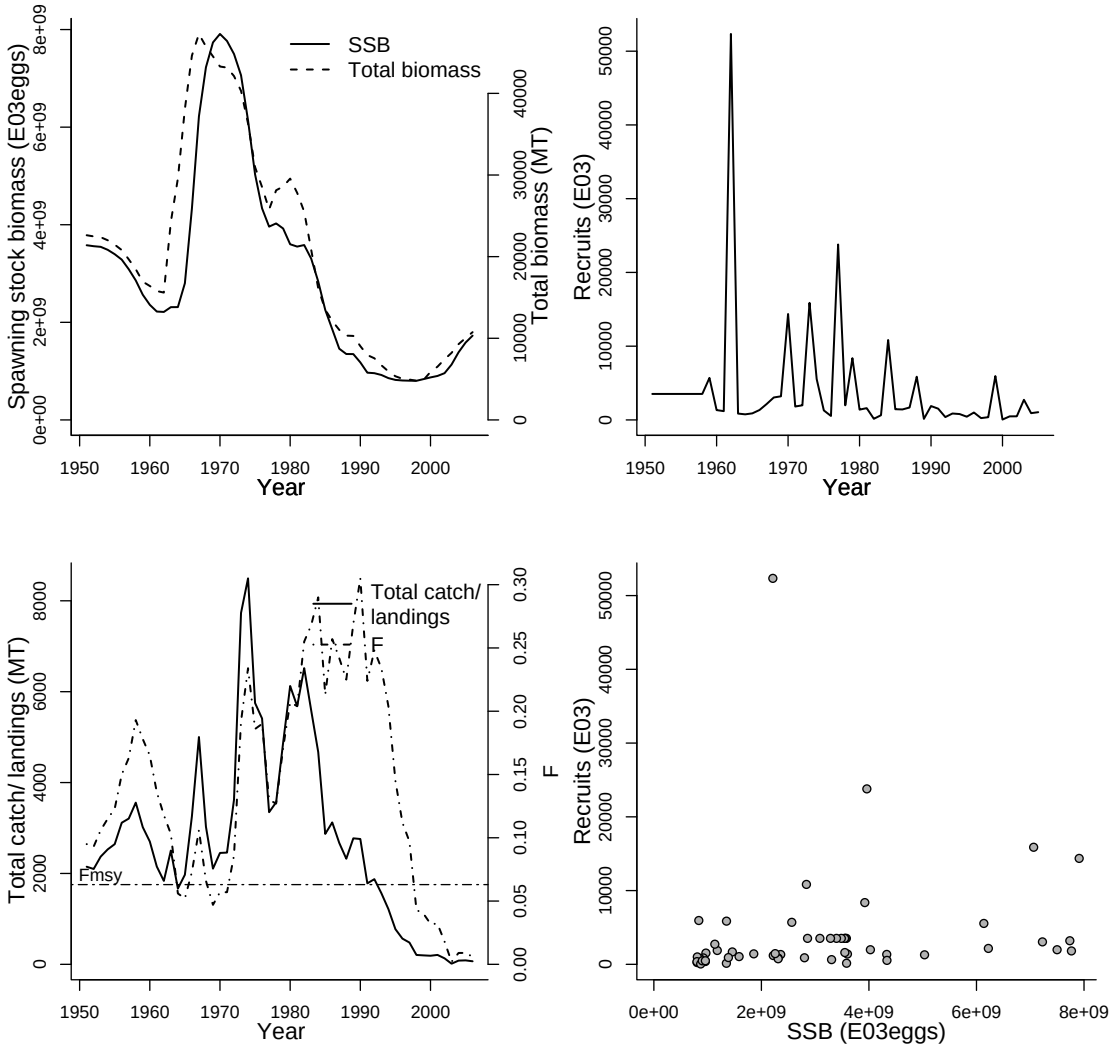
Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	MacCall AD
Assessment method	Stock Synthesis v1.0 model
Publication year	2008
Timeseries span	1951-2006
Document	NWFSC-BOCACCSPCOAST-2007 Bocaccio.pdf.pdf (pdf not in database)
Recorder	BRANCH
Date 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-yr	1	yr
TB-AGE-yr	1+	yr
M-1/yr	0.15	1/yr
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	**Value**	**Units**
BH-h-dimensionless	0.44	dimensionless
Blim-E09eggs	802	E09eggs
SSBmsy-E09eggs (SSB)	5429	E09eggs
Fmsy-1/yr (F)	0.063	1/yr
SSB0-E09eggs (SSB)	13572	E09eggs
R0-E03 (R)	5449	E03
SSBtarget-E09eggs (SSB)	5429	E09eggs
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.063	1/yr
SPRtarget-ratio (SPR)	0.5	ratio
MSY-MT (TB)	1974	MT
SSB_{2006}/B_{lim}	2153366.584	
F_{2006}/F_{msy}	0.095	
SSB_{2006}/SSB_{msy}	318106.465	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1951	1951	1951	1951	1951
Maximum year	2006	2005	2006	2006	2006
Time series minimum	802000000	50	0.002	4796	14
Time series maximum	7910000000	52337	0.305	47280	8494
Units	E03eggs	E03	1/yr	MT	MT



Assessment of Southern Pacific Coast chilipepper (*Sebastes goodei*)

Assessment ID:NWFSC-CHILISPCOAST-1892-2007-BRANCH

Area ID: USA-NMFS-SPCOAST

General assessment details.

Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	Field JG
Assessment method	Stock Synthesis v2.0 model
Publication year	2007
Timeseries span	1892-2007
Document	NWFSC-CHILISPCOAST-2007-Chilipepper CA OR.pdf.pdf (pdf not in database)
Recorder	BRANCH
Date entered	2009-03-10

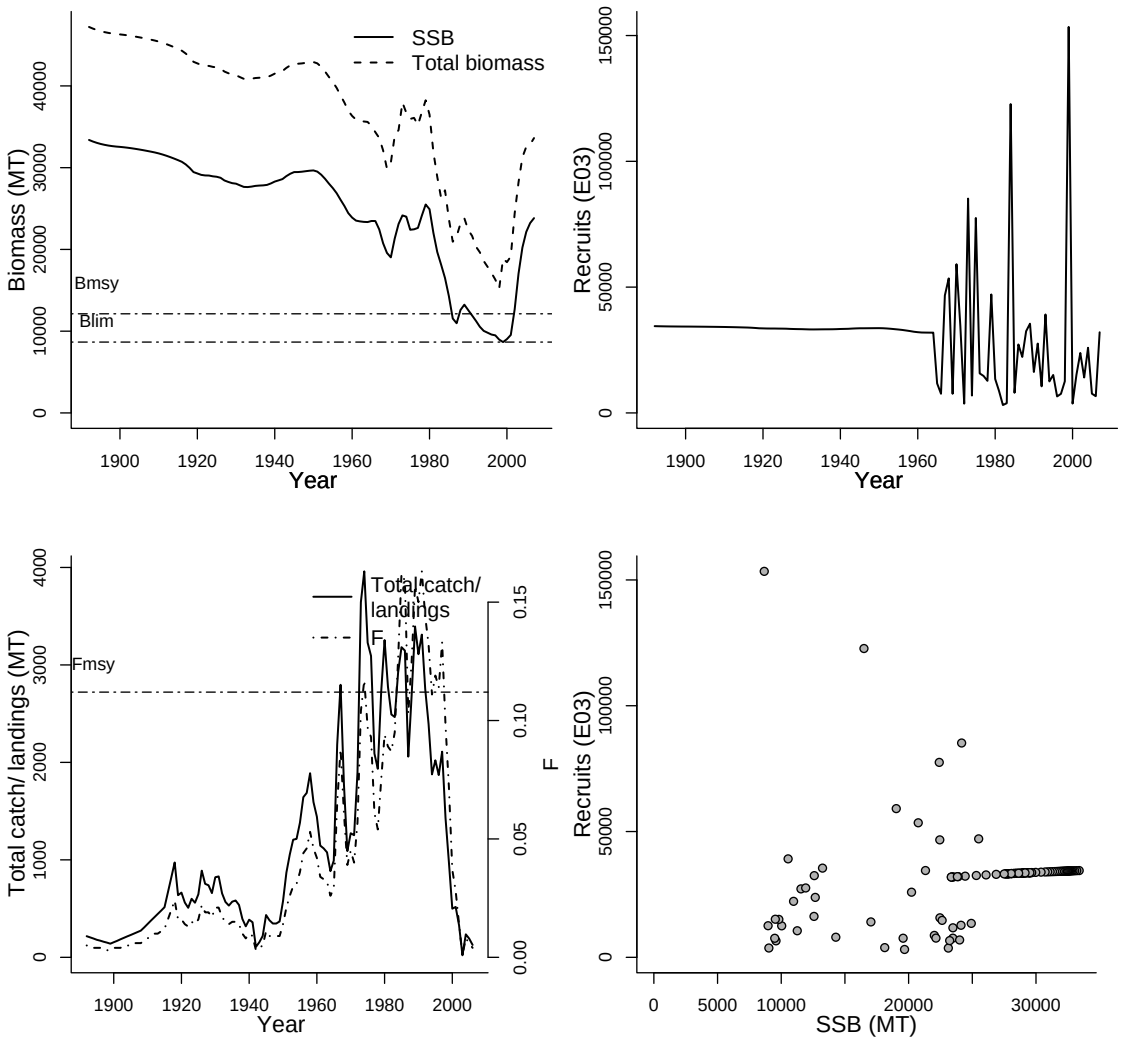
Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
REC-AGE-yr	0	yr
TB-AGE-yr	0+	yr
M-1/yr	0.16	1/yr
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points

Parameter	Value	Units
BH-h-dimensionless	0.573	dimensionless
Blim-MT (SSB)	8666	MT
Bmsy-MT (TB)	12126	MT
Fmsy-1/yr (F)	0.112	1/yr
SSB0-MT (SSB)	33390	MT
R0-E03 (R)	34490	E03
SSBtarget-MT (SSB)	21034	MT
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.102	1/yr
SPRtarget-ratio (SPR)	0.4	ratio
SSB_{2007}/B_{lim}	2.749	
TB_{2007}/B_{msy}	2.772	
F_{2006}/F_{msy}	0.036	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1892	1892	1892	1892	1892
Maximum year	2007	2007	2006	2007	2006
Time series minimum	8666	3130	0.001	15209	21
Time series maximum	33391	153415	0.163	47214	3960
Units	MT	E03	1/yr	MT	MT



Assessment of Southern California cowcod (*Sebastes levis*)

Assessment ID:NWFSC-COWCODSCAL-1900-2007-BRANCH

Area ID: USA-NMFS-SCAL

General assessment details.

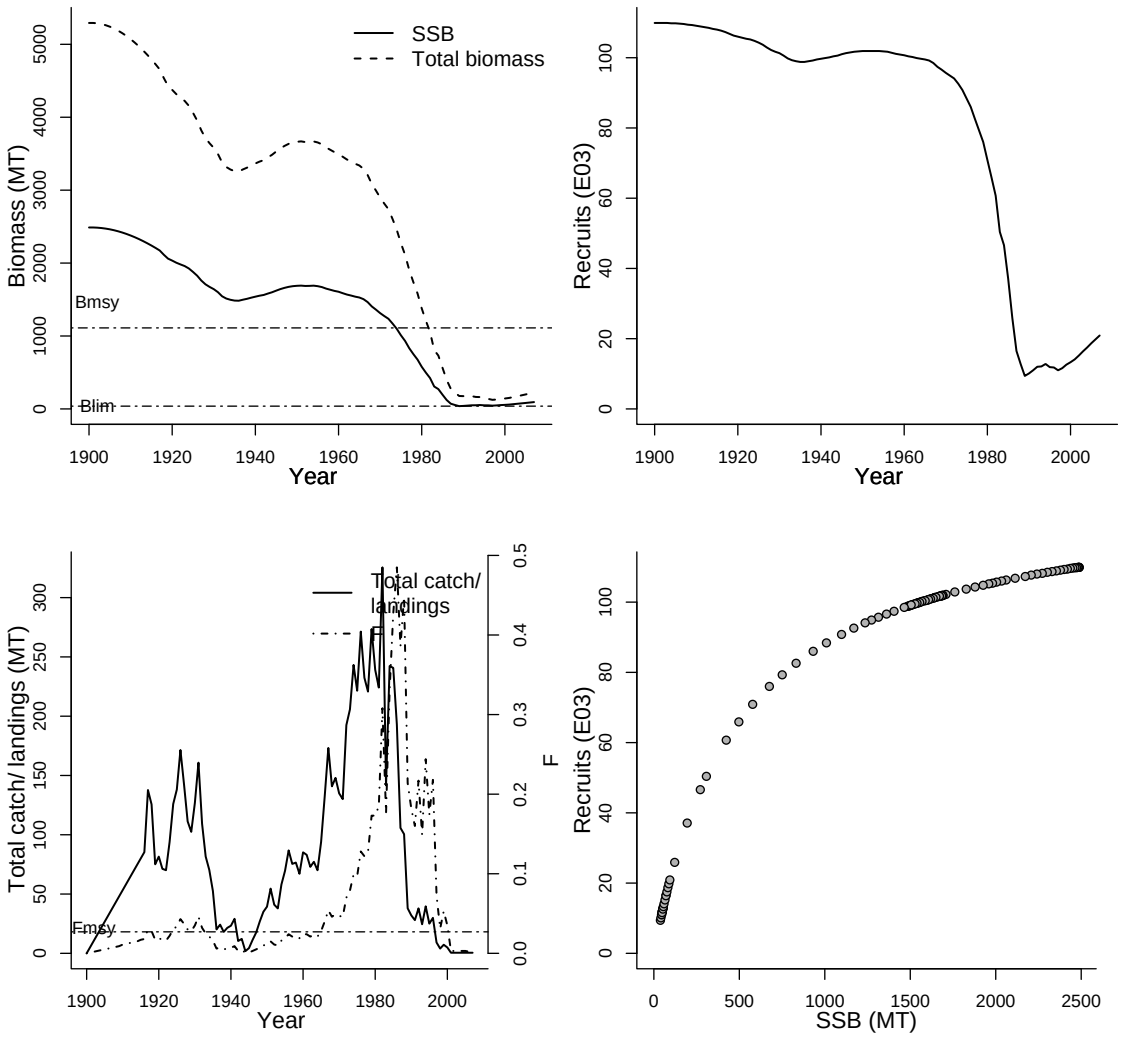
Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	Dick EJ
Assessment method	Stock Synthesis v2.0 model
Publication year	2007
Timeseries span	1900-2007
Document	NWFSC-COWCODSCAL-2007-Cowcod CA.pdf.pdf (pdf not in database)
Recorder	BRANCH
Date entered	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-yr	0	yr
TB-AGE-yr	1+	yr
M-1/yr	0.055	1/yr
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	**Value**	**Units**
BH-h-dimensionless	0.6	dimensionless
Blim-MT (SSB)	38	MT
Bmsy-MT (TB)	1111	MT
Fmsy-1/yr (F)	0.027	1/yr
SSB0-MT (SSB)	2488	MT
R0-E03 (R)	110	E03
SSBtarget-MT (SSB)	1111	MT
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.027	1/yr
SPRtarget-ratio (SPR)	0.4	ratio
SSB_{2007}/B_{lim}	2.461	
TB_{2007}/B_{msy}	0.202	
F_{2007}/F_{msy}	0.074	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1900	1900	1900	1900	1900
Maximum year	2007	2007	2007	2007	2007
Time series minimum	38.3	9.4	0	124.6	0.01
Time series maximum	2488.1	109.9	0.485	5293.1	325.54
Units	MT	E03	1/yr	MT	MT



Assessment of Pacific Coast canary rockfish (*Sebastes pinniger*)

Assessment ID:NWFSC-CROCKPCOAST-1916-2007-BRANCH

Area ID: USA-NMFS-PCOAST

General assessment details.

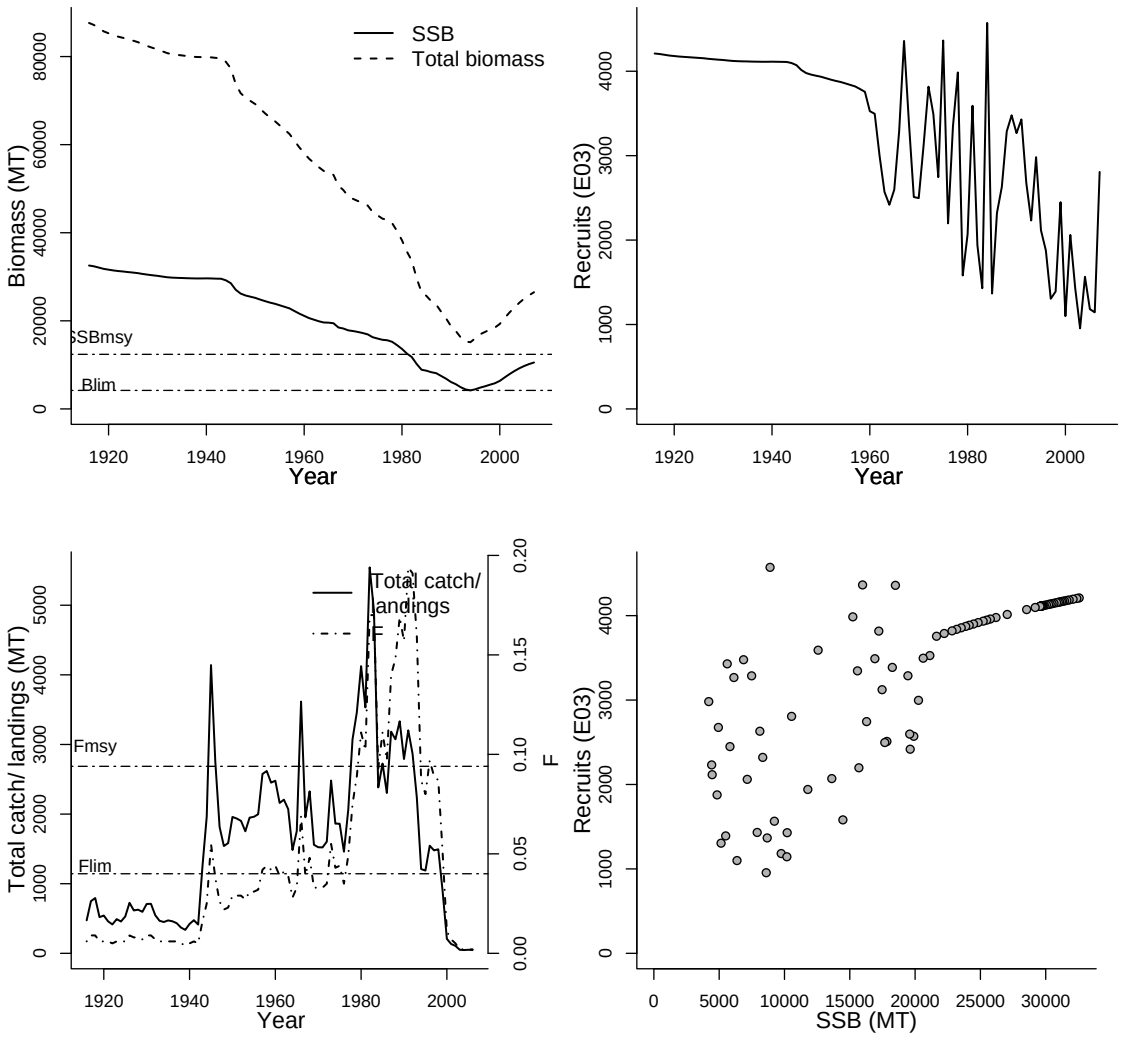
Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	Stewart, Ian J.
Assessment method	Stock Synthesis v2.0 model
Publication year	2007
Timeseries span	1916-2007
Document	NWFSC-CROCKPCOAST-2007-Canary.pdf.pdf (pdf not in database)
Recorder	BRANCH
Date 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-yr	0	yr
TB-AGE-yr	0	yr
L50-cm	40.5	cm
M-1/T	0.06	1/T
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	**Value**	**Units**
BH-h-dimensionless	0.511	dimensionless
Blim-MT (SSB)	4202	MT
SSBmsy-MT (SSB)	12394	MT
Flim-1/yr (F)	0.04	1/yr
Fmsy-1/yr (F)	0.094	1/yr
SSB0-MT (SSB)	32561	MT
R0-E03 (R)	4210	E03
SSBtarget-MT (SSB)	13041	MT
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.04	1/yr
SPRtarget-ratio (SPR)	0.5	ratio
SSB_{2007}/B_{lim}	2.509	
F_{2006}/F_{lim}	0.050	
F_{2006}/F_{msy}	0.021	
SSB_{2007}/SSB_{msy}	0.851	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1916	1916	1916	1916	1916
Maximum year	2007	2007	2006	2007	2006
Time series minimum	4202	955	0.002	15147	47
Time series maximum	32561	4572	0.194	87633	5544
Units	MT	E03	1/yr	MT	MT



Assessment of Pacific Coast darkblotched rockfish (*Sebastes crameri*)

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

Area ID: USA-NMFS-PCOAST

General assessment details.

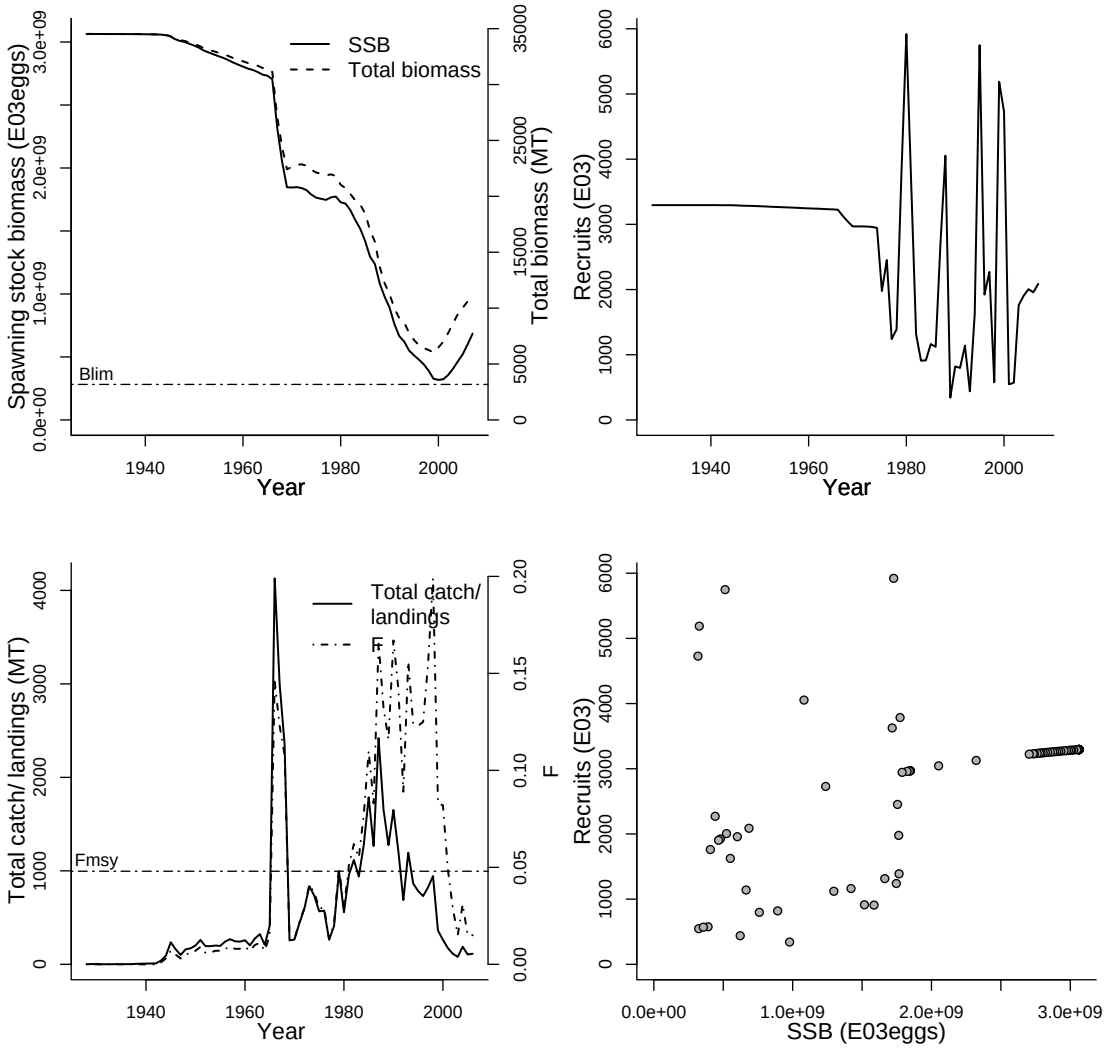
Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	Hamel OS
Assessment method	Stock Synthesis v2.0 model
Publication year	2008
Timeseries span	1928-2007
Document	NWFSC-DKROCKPCOAST-2008-Darkblotched rockfish.pdf.pdf (pdf not in database)
Recorder	BRANCH
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-yr	0	yr
TB-AGE-yr	0+	yr
L50-cm	34.5	cm
M-1/yr	0.07	1/yr
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	**Value**	**Units**
BH-h-dimensionless	0.6	dimensionless
Blim-MT (SSB)	3176	MT
SSBmsy-E08eggs (SSB)	9376	E08eggs
Fmsy-1/yr (F)	0.048	1/yr
SSB0-E08eggs (SSB)	30640	E08eggs
R0-E03 (R)	3295	E03
SSBtarget-E08eggs (SSB)	12256	E08eggs
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.041	1/yr
SPRtarget-ratio (SPR)	0.5	ratio
MSY-MT (TB)	644	MT
SSB_{2007}/B_{lim}	215774.559	
F_{2006}/F_{msy}	0.312	
SSB_{2007}/SSB_{msy}	73090.870	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1928	1928	1928	1928	1928
Maximum year	2007	2007	2006	2007	2006
Time series minimum	317600000	342	0	6031	1
Time series maximum	3064100000	5921	0.199	34527	4129
Units	E03eggs	E03	1/yr	MT	MT



Assessment of Pacific Coast english sole (*Parophrys vetulus*)

Assessment ID:NWFSC-ESOLEPCOAST-1876-2007-BRANCH

Area ID: USA-NMFS-PCOAST

General assessment details.

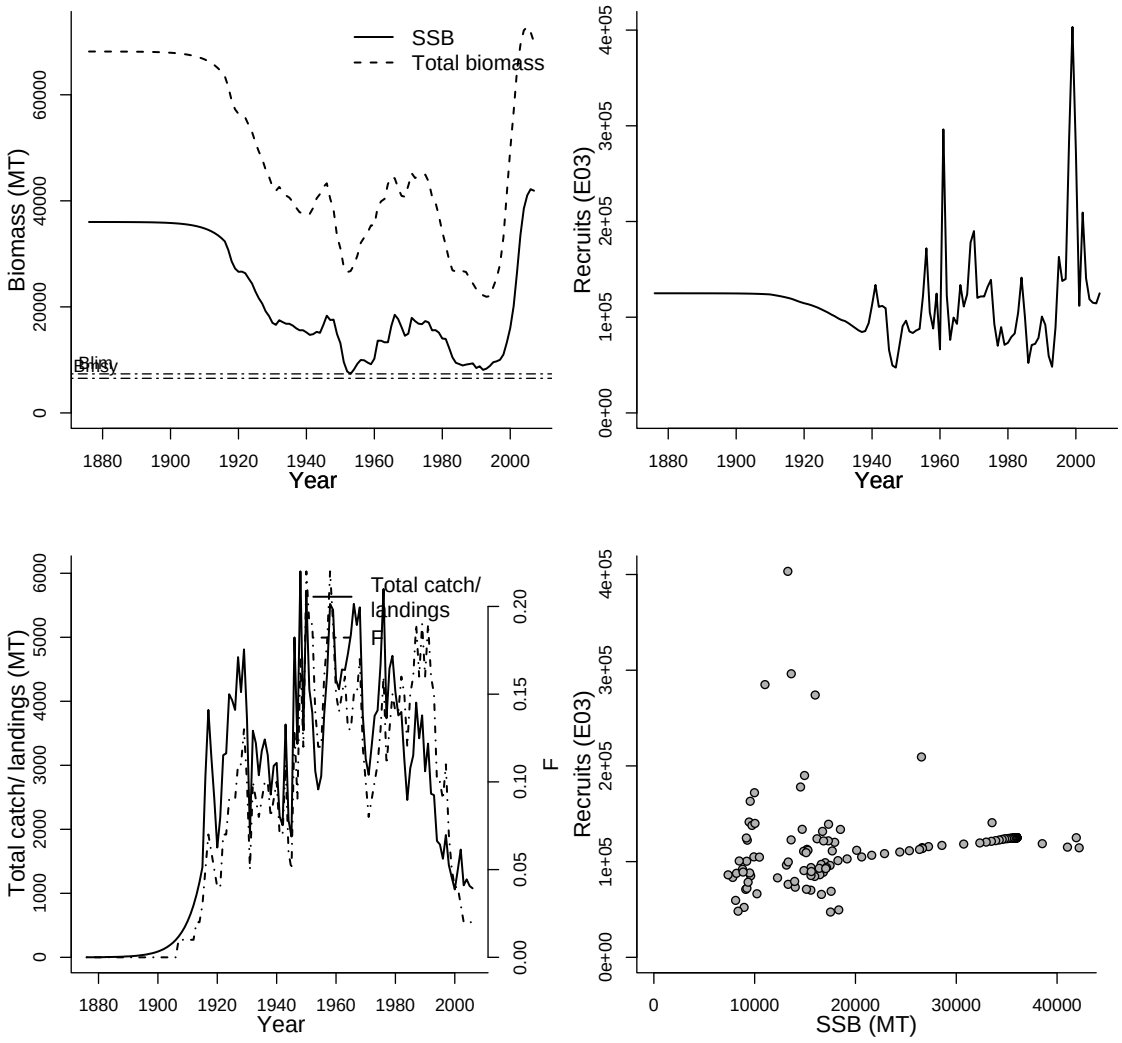
Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	Stewart, Ian J.
Assessment method	Stock Synthesis v2.0 model
Publication year	2007
Timeseries span	1876-2007
Document	NWFSC-ESOLEPCOAST-2007-EnglishSole.pdf.pdf (pdf not in database)
Recorder	BRANCH
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	0	yr
L50-cm	23.3	cm
TB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	**Value**	**Units**
BH-h-dimensionless	0.798	dimensionless
Blim-MT (SSB)	7364	MT
Bmsy-MT (TB)	6526	MT
Fmsy-1/yr (F)	0.27	1/yr
SSB0-MT (SSB)	36012	MT
R0-E03 (R)	124990	E03
SSBtarget-MT (SSB)	14405	MT
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.13	1/yr
SPRtarget-ratio (SPR)	0.49	ratio
SSB_{2007}/B_{lim}	5.691	
TB_{2007}/B_{msy}	10.708	
F_{2006}/F_{msy}	0.074	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1876	1876	1876	1876	1876
Maximum year	2007	2007	2006	2007	2006
Time series minimum	7364	47349	0	21903	1
Time series maximum	42193	403289	0.22	72795	6030
Units	MT	E03	1/T	MT	MT



Assessment of Pacific Coast longnose skate (*Raja rhina*)

Assessment ID:NWFSC-LNOSESKAPCOAST-1915-2007-BRANCH

Area ID: USA-NMFS-PCOAST

General assessment details.

Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	Gertseva VV
Assessment method	Stock Synthesis v2.0 model
Publication year	2008
Timeseries span	1915-2007
Document	NWFSC-LNOSESKAPCOAST-2008-Longnose skate.pdf.pdf (pdf not in database)
Recorder	BRANCH
Date entered	2009-03-10

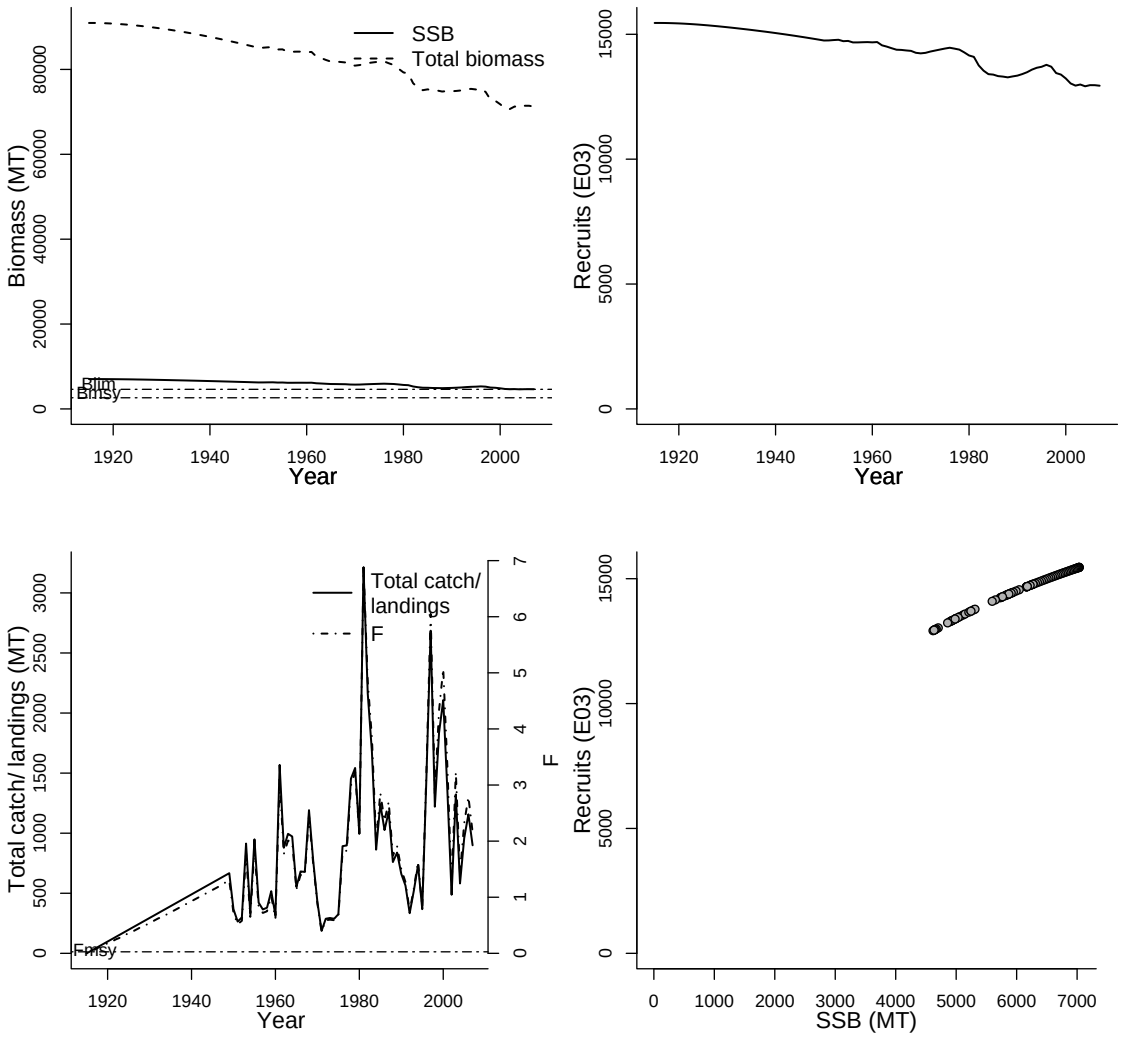
Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
REC-AGE-yr	0	yr
TB-AGE-yr	0+	yr
L50-cm	120	cm
M-1/yr	0.2	1/yr
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
MORATOR-yr-yr		
LME		

Reference points

Parameter	Value	Units
BH-h-dimensionless	0.4	dimensionless
Blim-MT (SSB)	4617	MT
Bmsy-MT (TB)	2626	MT
Fmsy-1/yr (F)	0.027	1/yr
SSB0-MT (SSB)	7034	MT
R0-E03 (R)	15454	E03
SSBtarget-MT (SSB)	2814	MT
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.043	1/yr
SPRtarget-ratio (SPR)	0.4	ratio
MSY-MT (TB)	1268	MT
SSB_{2007}/B_{lim}	1.004	
TB_{2007}/B_{msy}	27.120	
F_{2007}/F_{msy}	80.000	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1915	1915	1915	1915	1915
Maximum year	2007	2007	2007	2007	2007
Time series minimum	4617.13	12918.1	0	70670.6	0
Time series maximum	7034.32	15454.2	6.88	90955.2	3212.68
Units	MT	E03	1/yr	MT	MT



Assessment of Pacific Coast pacific hake (*Merluccius productus*)

Assessment ID:NWFSC-PHAKEPCOAST-1966-2008-BRANCH

Area ID: USA-NMFS-PCOAST

General assessment details.

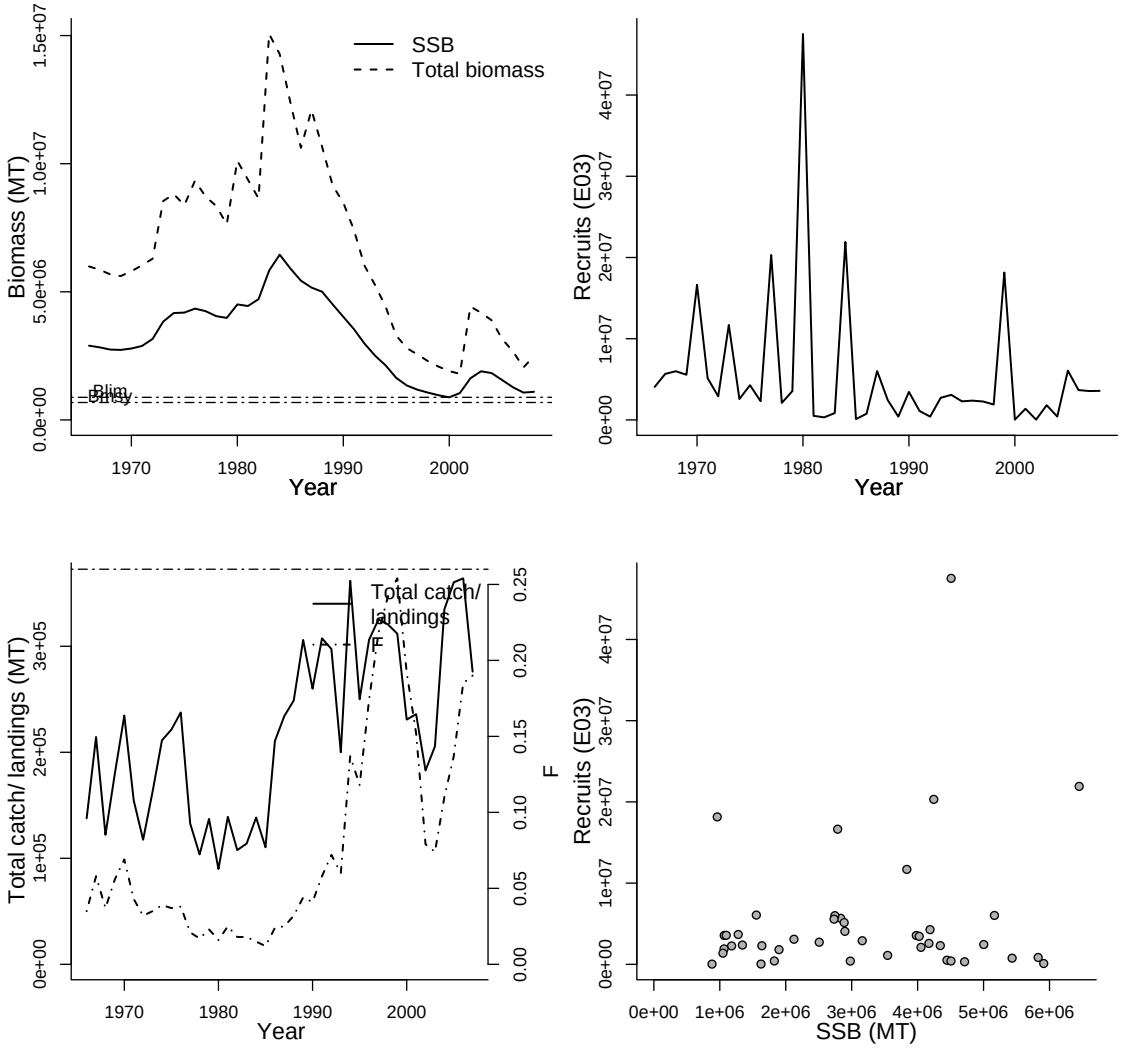
Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	Helser TE
Assessment method	Stock Synthesis v2.0 model
Publication year	2008
Timeseries span	1966-2008
Document	NWFSC-PHAKEPCOAST-2008-Pacific-Hake-US-Canada.pdf.pdf (pdf not in database)
Recorder	BRANCH
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-yr	0	yr
TB-AGE-yr	3+	yr
L50-cm	36	cm
M-1/yr	0.23	1/yr
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	**Value**	**Units**
BH-h-dimensionless	0.744	dimensionless
Blim-MT (SSB)	882000	MT
Bmsy-MT (TB)	680000	MT
Fmsy-1/yr (F)	0.26	1/yr
SSB0-MT (SSB)	2890000	MT
R0-E09 (R)	4.06	E09
SSBtarget-MT (SSB)	1170000	MT
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.16	1/yr
SPRtarget-ratio (SPR)	0.4	ratio
SSB_{2008}/B_{lim}	1.244	
TB_{2008}/B_{msy}	3.662	
F_{2007}/F_{msy}	0.731	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1966	1966	1966	1966	1966
Maximum year	2008	2008	2007	2008	2007
Time series minimum	882000	30000	0.012	1798000	89936
Time series maximum	6450000	47524000	0.254	15063000	364025
Units	MT	E03	1/yr	MT	MT



Assessment of Pacific Coast pacific ocean perch (*Sebastes alutus*)

Assessment ID:NWFSC-POPERCHPCOAST-1953-2007-BRANCH

Area ID: USA-NMFS-PCOAST

General assessment details.

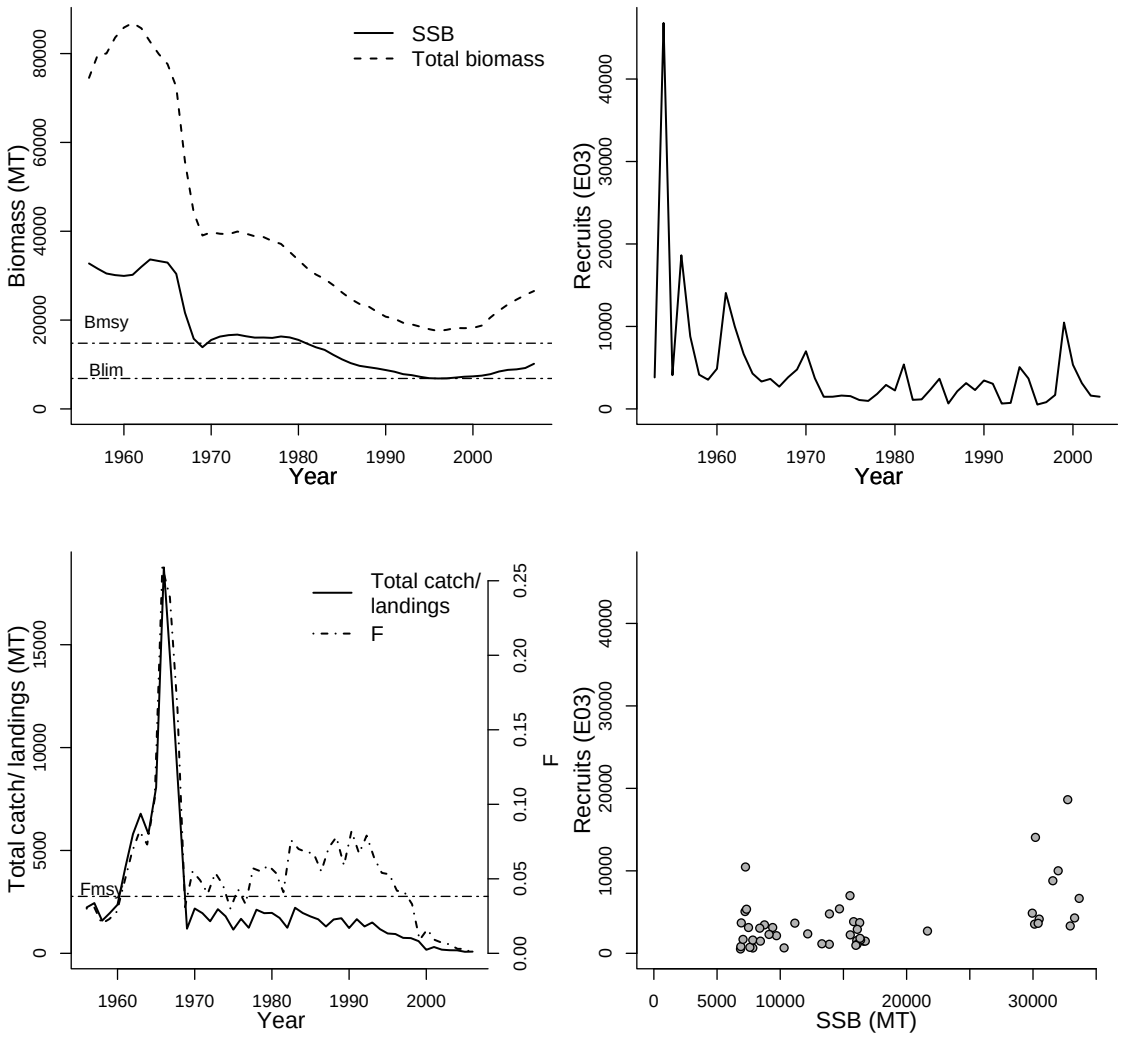
Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	Hamel OS
Assessment method	an AD-Model builder statistical Catch at Age Model
Publication year	2007
Timeseries span	1953-2007
Document	NWFSC-POPERCHPCOAST-2007-Pacific ocean perch.pdf.pdf (pdf not in database)
Recorder	BRANCH
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-yr	3	yr
TB-AGE-yr	3+	yr
M-1/yr	0.053	1/yr
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	**Value**	**Units**
BH-h-dimensionless	0.652	dimensionless
Blim-MT (SSB)	6856	MT
Bmsy-MT (TB)	14793	MT
Fmsy-1/yr (F)	0.0382	1/yr
SSB0-MT (SSB)	36983	MT
R0-E06 (R)	4.97	E06
SSBtarget-MT (SSB)	14793	MT
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.0388	1/yr
SPRtarget-ratio (SPR)	0.4	ratio
SSB_{2007}/B_{lim}	1.483	
TB_{2007}/B_{msy}	1.794	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1956	1953	1956	1956	1956
Maximum year	2007	2003	2007	2007	2006
Time series minimum	6856	530	0	17543.8	75
Time series maximum	33654	46800	0.259	86898.1	18761
Units	MT	E03	1/yr	MT	MT



Assessment of Pacific Coast sablefish (*Anoplopoma fimbria*)

Assessment ID:NWFSC-SABLEFPCOAST-1900-2007-BRANCH

Area ID: USA-NMFS-PCOAST

General assessment details.

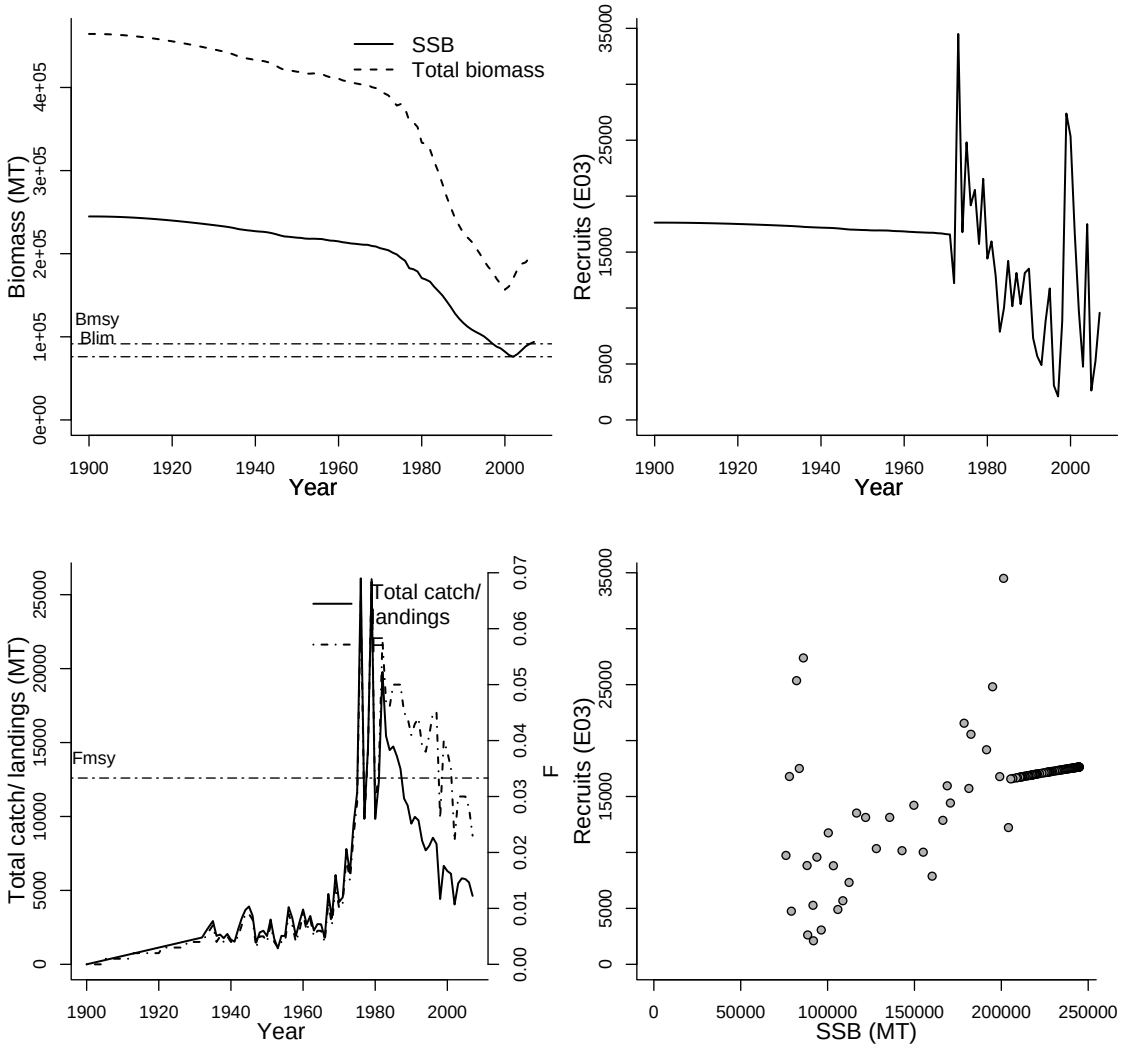
Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	Schirripa MJ
Assessment method	Stock Synthesis v2.0 model
Publication year	2007
Timeseries span	1900-2007
Document	NWFSC-SABLEFPCOAST-2007-Sablefish.pdf.pdf (pdf not in database)
Recorder	BRANCH
Date 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-yr	0	yr
TB-AGE-yr	2+	yr
L50-cm	55.3	cm
M-1/yr	0.07	1/yr
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	**Value**	**Units**
BH-h-dimensionless	0.48	dimensionless
Blim-MT (SSB)	76036	MT
Bmsy-MT (TB)	91559	MT
Fmsy-1/yr (F)	0.0333	1/yr
SSB0-MT (SSB)	244688	MT
R0-E03 (R)	17656	E03
SSBtarget-MT (SSB)	97919	MT
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.0313	1/yr
SPRtarget-ratio (SPR)	0.4	ratio
MSY-MT (TB)	6303	MT
SSB_{2007}/B_{lim}	1.234	
TB_{2007}/B_{msy}	2.126	
F_{2007}/F_{msy}	0.691	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1900	1900	1900	1900	1900
Maximum year	2007	2007	2007	2007	2007
Time series minimum	76036.2	2103.55	0	156707	0
Time series maximum	244809	34500.6	0.069	464403	26105.8
Units	MT	E03	1/yr	MT	MT



Assessment of Pacific Coast widow rockfish (*Sebastes entomelas*)

Assessment ID:NWFSC-WROCKPCOAST-1955-2006-BRANCH

Area ID: USA-NMFS-PCOAST

General assessment details.

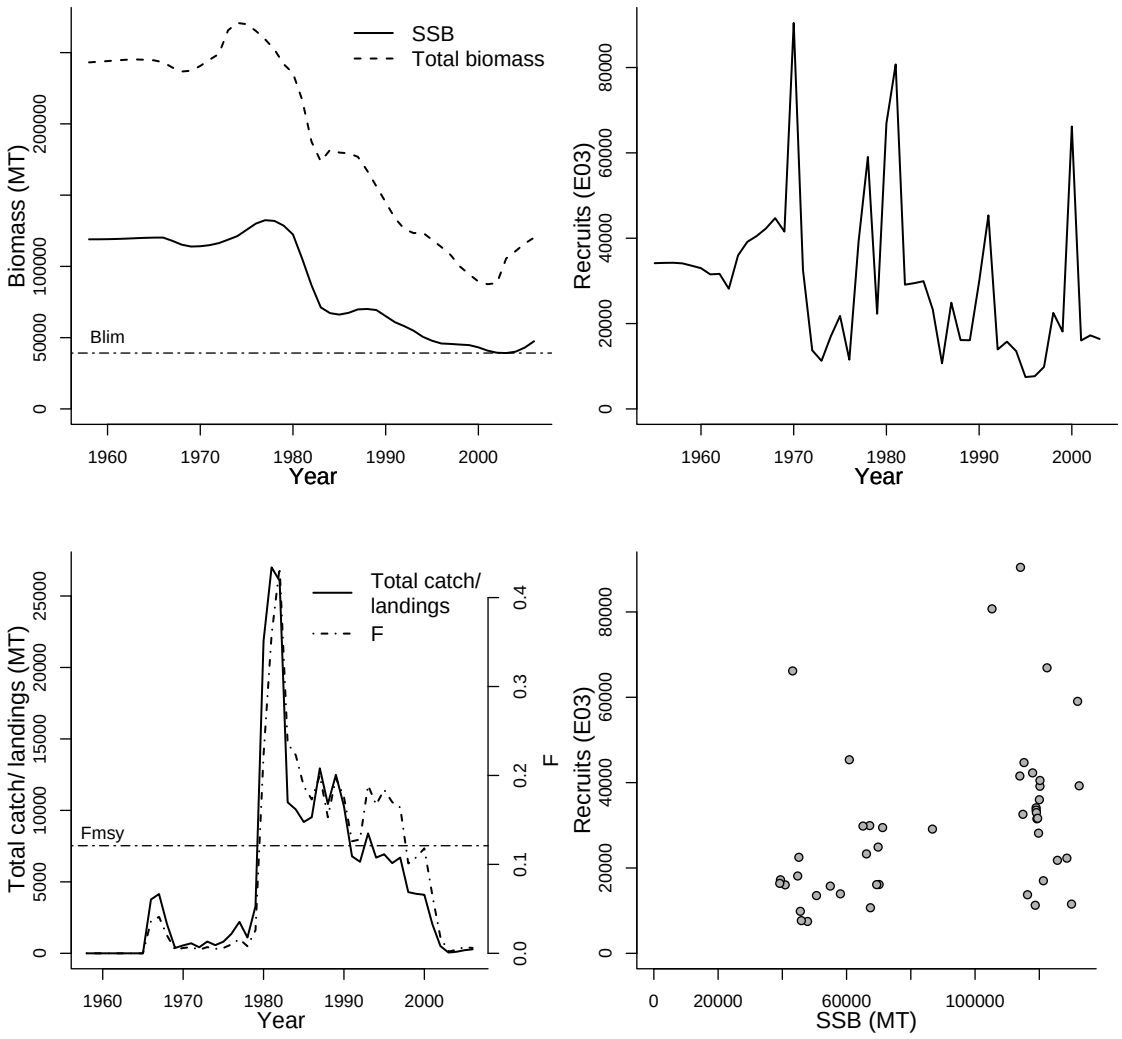
Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	He X
Assessment method	an AD-Model builder statistical Catch at Age Model
Publication year	2007
Timeseries span	1955-2006
Document	NWFSC-WROCKPCOAST-2007-widow.pdf.pdf (pdf not in database)
Recorder	BRANCH
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-yr	3	yr
TB-AGE-yr	3+	yr
M-1/yr	0.125	1/yr
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
L50-cm		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	**Value**	**Units**
BH-h-dimensionless	0.29	dimensionless
Blim-MT (SSB)	39194	MT
SSBmsy-E06eggs (SSB)	20298	E06eggs
Fmsy-1/yr (F)	0.121	1/yr
SSB0-E06eggs (SSB)	50746	E06eggs
SSBtarget-E06eggs (SSB)	20298	E06eggs
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.121	1/yr
SPRtarget-ratio (SPR)	0.4	ratio
SSB_{2006}/B_{lim}	1.211	
F_{2006}/F_{msy}	0.050	
SSB_{2006}/SSB_{msy}	2.339	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1958	1955	1958	1958	1958
Maximum year	2006	2003	2006	2006	2006
Time series minimum	39194	7470	0	87514	0
Time series maximum	132416	90448	0.434	270818	27005
Units	MT	E03	1/yr	MT	MT



Assessment of Pacific Coast yelloweye rockfish (*Sebastes ruberrimus*)

Assessment ID:NWFSC-YEYEROCKPCOAST-1923-2006-BRANCH

Area ID: USA-NMFS-PCOAST

General assessment details.

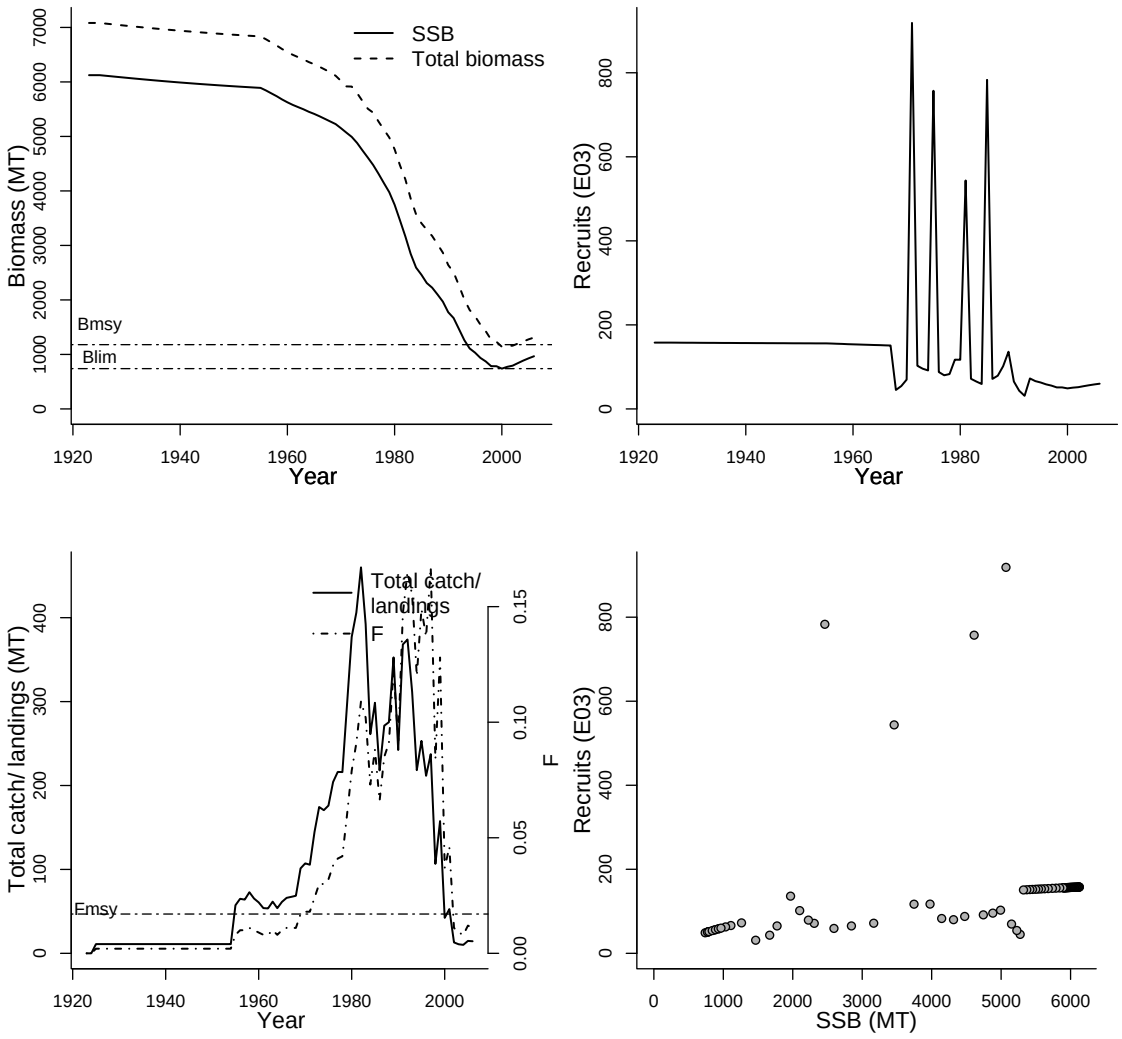
Detail	Value
Management body	NMFS
Assessment group	Northwest Fisheries Science Center
Assessment authors	Wallace GR
Assessment method	Stock Synthesis v2.0 model
Publication year	2007
Timeseries span	1923-2006
Document	NWFSC-YEYEROCKPCOAST-2007-yelloweye.pdf.pdf (pdf not in database)
Recorder	BRANCH
Date 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-yr	0	yr
TB-AGE-yr	1+	yr
L50-cm	36	cm
M-1/yr	0.036	1/yr
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
MORATOR-yr-yr		
LME		

Reference points		
Parameter	**Value**	**Units**
BH-h-dimensionless	0.45	dimensionless
Blim-MT (SSB)	739	MT
Bmsy-MT (TB)	1179	MT
Fmsy-1/yr (F)	0.017	1/yr
SSB0-MT (SSB)	3062	MT
R0-E03 (R)	157.8	E03
SSBtarget-MT (SSB)	1225	MT
SSBmin-ratio (SSB)	0.25	ratio
Ftarget-1/yr (F)	0.018	1/yr
SPRtarget-ratio (SPR)	0.4	ratio
MSY-MT (TB)	51.4	MT
SSB_{2006}/B_{lim}	1.308	
TB_{2006}/B_{msy}	1.111	
F_{2006}/F_{msy}	0.647	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1923	1923	1923	1923	1923
Maximum year	2006	2006	2006	2006	2006
Time series minimum	739.11	31.2	0	1141	0
Time series maximum	6124.01	918.6	0.167	7082.2	460
Units	MT	E03	1/yr	MT	MT



Assessment of Pacific Coast shortbelly rockfish (*Sebastes jordani*)

Assessment ID:SWFSC-SBELLYROCKPCOAST-1950-2005-BRANCH

Area ID: USA-NMFS-PCOAST

General assessment details.

Detail	Value
Management body	NMFS
Assessment group	Southwest Fisheries Science Center
Assessment authors	Field JC
Assessment method	Stock Synthesis v2.0 model
Publication year	2007
Timeseries span	1950-2005
Document	NWFSC-SBELLYROCKPCOAST-2007-Shortbelly rockfish.pdf.pdf (pdf not in database)
Recorder	BRANCH
Date entered	2009-03-10

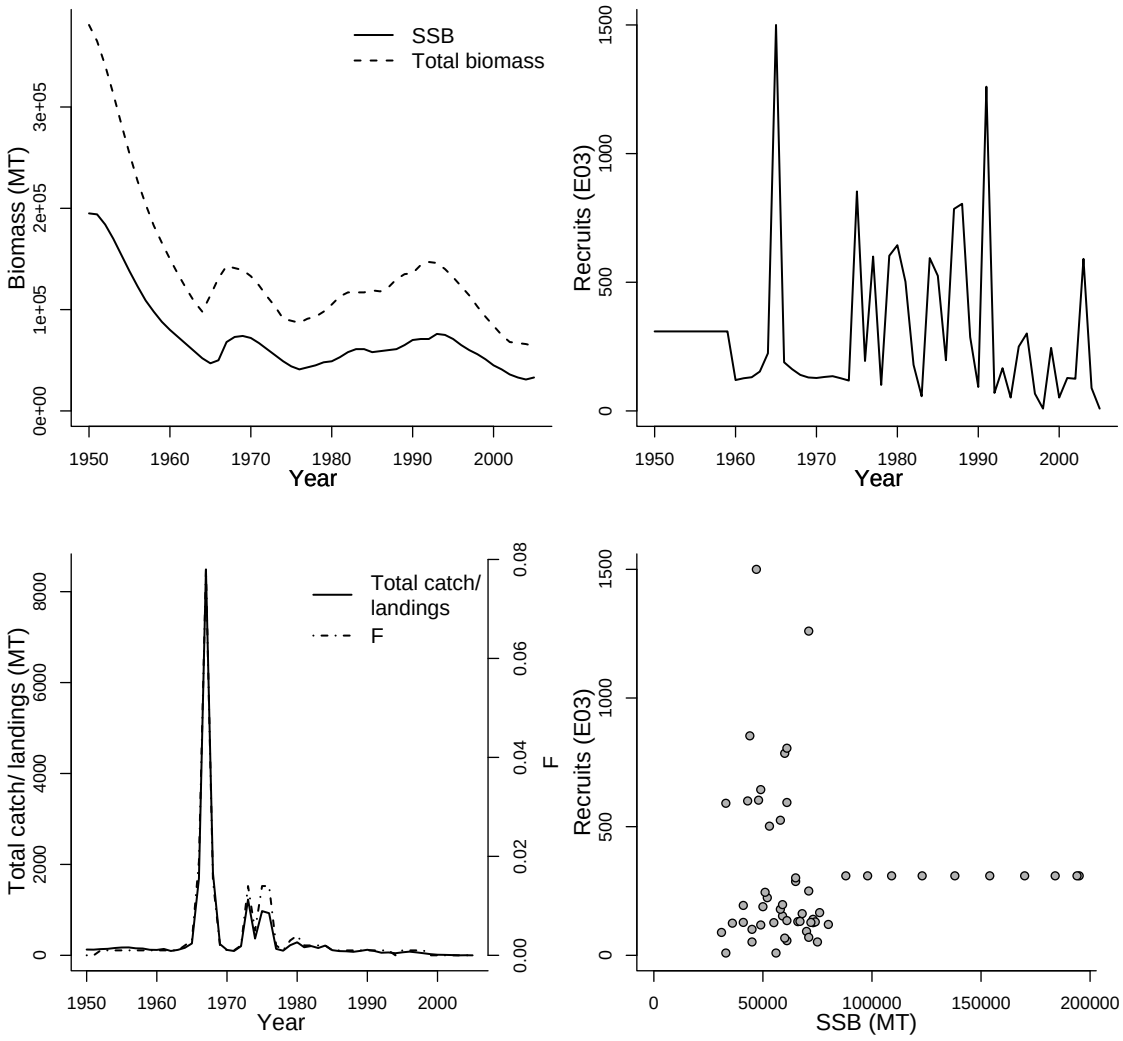
Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

Parameter	Value	Units
REC-AGE-yr	0	yr
TB-AGE-yr	1+	yr
M-1/yr	0.26	1/yr
SSB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
L50-cm		
MORATOR-yr-yr		
LME		

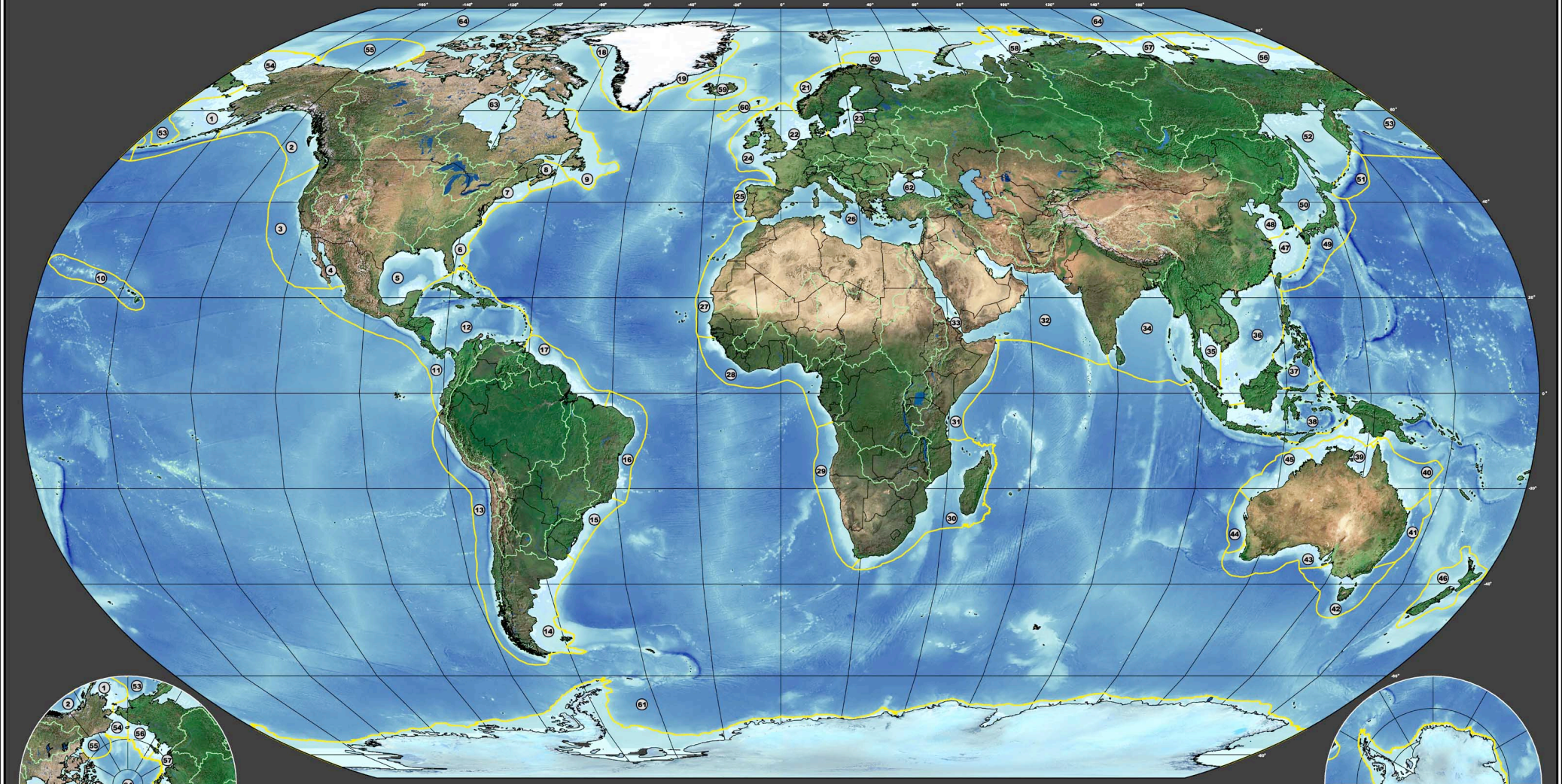
Reference points

Parameter	Value	Units
BH-h-dimensionless	0.65	dimensionless
R0-E03 (R)	309.248	E03

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1950	1950	1950	1950	1950
Maximum year	2005	2005	2005	2005	2005
Time series minimum	31000	9	0	64000	0
Time series maximum	195000	1500	0.078	381000	8491
Units	MT	E03	1/yr	MT	MT



Large Marine Ecosystems of the World
and Linked Watersheds



MAP KEY:

LME Numbers:

1 East Bering Sea
2 Gulf of Alaska
3 California Current
4 Gulf of California
5 Gulf of Mexico
6 Southeast U.S. Continental Shelf
7 Northeast U.S. Continental Shelf
8 Scotian Shelf
9 Newfoundland-Labrador Shelf
10 Insular Pacific-Hawaiian
11 Pacific Central-American Coastal
12 Caribbean Sea
13 Humboldt Current
14 Patagonian Shelf
15 South Brazil Shelf
16 East Brazil Shelf
17 North Brazil Shelf
18 West Greenland Shelf
19 East Greenland Shelf
20 Barents Sea
21 Norwegian Shelf
22 North Sea
23 Baltic Sea
24 Celtic-Biscay Shelf
25 Iberian Coastal
26 Mediterranean Sea
27 Canary Current
28 Guinea Current
29 Benguela Current
30 Agulhas Current
31 Somali Coastal Current
32 Arabian Sea
33 Red Sea
34 Bay of Bengal
35 Gulf of Thailand
36 South China Sea
37 Sulu-Celebes Sea
38 Indonesian Sea
39 North Australian Shelf
40 Northeast Australian Shelf - Great Barrier Reef
41 East-Central Australian Shelf
42 Southeast Australian Shelf
43 Southwest Australian Shelf
44 West-Central Australian Shelf
45 Northwest Australian Shelf
46 New Zealand Shelf
47 East China Sea
48 Yellow Sea
49 Kuroshio Current
50 Sea of Japan
51 Oyashio Current
52 Sea of Okhotsk
53 West Bering Sea
54 Chukchi Sea
55 Beaufort Sea
56 East Siberian Sea
57 Laptev Sea
58 Kara Sea
59 Iceland Shelf
60 Faroe Plateau
61 Antarctic
62 Black Sea
63 Hudson Bay
64 Arctic Ocean

Large Marine Ecosystems
Watershed Bounds
Political Borders

DEPTH

Feet (ft)	Meters (m)
-36,080	-11,000
-32,800	-10,000
-29,520	-9,000
-26,240	-8,000
-22,960	-7,000
-19,680	-6,000
-16,400	-5,000
-13,120	-4,000
-9,840	-3,000
-6,560	-2,000
-3,280	-1,000
-1,640	-500
-246	-75
0	0

N W E S

SCALE = 1 : 31,700,000
Robinson Projection
Units Meters

Miles
0 300 600 900 1200

Kilometers
0 400 800 1200 1600 2000 2400

Data Sources:
Bathymetry (2-minute) : Smith and Sadnwell, 1997
Bathymetry (5-minute) : NAVOCEANO, DBDB5
Watersheds (HYDRO 1k) : USGS Eros Data Center
Terrestorial Image, Political Boundaries : ESRI

IUCN

***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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