Dear Katherine,

Thank you sincerely for submitting assessments to the Myers II database. We have entered 9 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 Gulf of Maine / Georges Bank-Southern New England barndoor skate (*Dipturus laevis*)

Assessment ID:NEFSC-BSKAT5YZSNE-1963-2005-SOSEBEE
Issue URL: http://www.marinebiodiversity.ca/RAMlegacy/ramlegacy-bug-reporting/428

Area ID: USA-NMFS-5YZSNE

General assessment details.

Detail	Value
Management body	NMFS
Assessment group	Northeast Fisheries Science Center
Assessment authors	Northeast Fisheries Science Center
Assessment method	Temporal indices derived from scientific survey data
Publication year	2007
Timeseries span	1963-2005
Document	./ (pdf not in database)
Recorder	SOSEBEE
Date entered	2009-04-21
Date last loaded	2009-12-11
QA/QC complete	NO
Date approved	

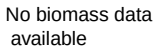
Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

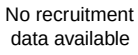
primary LME	secondary LME	tertiary LME
7 - Northeast U.S. Continental Shelf	na	na

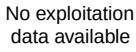
Parameter	Value	Units
REC-AGE		
SSB-AGE-yr		
TB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
L50-cm		

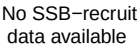
Reference points		
Parameter	Value	Units

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year					
Maximum year					
Time series minimum					
Time series maximum					
Units					









Assessment of Mid-Atlantic Coast clearnose skate (*Raja eglanteria*)

Assessment ID:NEFSC-CSKATMATLC-1975-2005-SOSEBEE
Issue URL: http://www.marinebiodiversity.ca/RAMlegacy/ramlegacy-bug-reporting/429

Area ID: USA-NMFS-MATLC

General assessment details.

Detail	Value
Management body	NMFS
Assessment group	Northeast Fisheries Science Center
Assessment authors	Northeast Fisheries Science Center
Assessment method	Temporal indices derived from scientific survey data
Publication year	2007
Timeseries span	1975-2005
Document	./ (pdf not in database)
Recorder	SOSEBEE
Date entered	2009-04-21
Date last loaded	2009-12-11
QA/QC complete	NO
Date approved	

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

primary LME	secondary LME	tertiary LME
7 - Northeast U.S. Continental Shelf	6 - Southeast U.S. Continental Shelf	na

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

Reference points		
Parameter	Value	Units

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year					
Maximum year					
Time series minimum					
Time series maximum					
Units					

No biomass data available

No recruitment data available

No exploitation data available

No SSB−recruit data available

Assessment of Gulf of Maine / Cape Hatteras little skate (*Leucoraja erinacea*)

Assessment ID:NEFSC-LSKAT5YCHATT-1968-2006-SOSEBEE
Issue URL: http://www.marinebiodiversity.ca/RAMlegacy/ramlegacy-bug-reporting/430

Area ID: USA-NMFS-5YCHATT

General assessment details.

Detail	Value
Management body	NMFS
Assessment group	Northeast Fisheries Science Center
Assessment authors	Northeast Fisheries Science Center
Assessment method	Temporal indices derived from scientific survey data
Publication year	2007
Timeseries span	1968-2006
Document	./ (pdf not in database)
Recorder	SOSEBEE
Date entered	2009-04-21
Date last loaded	2009-12-14
QA/QC complete	NO
Date approved	

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

primary LME	secondary LME	tertiary LME
7 - Northeast U.S. Continental Shelf	na	na

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

Reference points		
Parameter	Value	Units

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year					
Maximum year					
Time series minimum					
Time series maximum					
Units					

No biomass data available

No recruitment data available

No exploitation data available

No SSB−recruit data available

Assessment of Mid-Atlantic Coast rosette skate (*Leucoraja garmani*)

Assessment ID:NEFSC-RSKATMATLC-1967-2005-SOSEBEE
Issue URL: http://www.marinebiodiversity.ca/RAMlegacy/ramlegacy-bug-reporting/431

Area ID: USA-NMFS-MATLC

General assessment details.

Detail	Value
Management body	NMFS
Assessment group	Northeast Fisheries Science Center
Assessment authors	Northeast Fisheries Science Center
Assessment method	Temporal indices derived from scientific survey data
Publication year	2007
Timeseries span	1967-2005
Document	./ (pdf not in database)
Recorder	SOSEBEE
Date entered	2009-04-21
Date last loaded	2009-12-14
QA/QC complete	NO
Date approved	

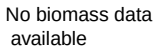
Biometrics provided. Note that the assumed timeseries to which the reference point pertains is indicated in parentheses.

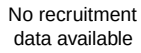
primary LME	secondary LME	tertiary LME
7 - Northeast U.S. Continental Shelf	6 - Southeast U.S. Continental Shelf	na

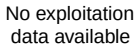
Parameter	Value	Units
REC-AGE		
SSB-AGE-yr		
TB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
L50-cm		

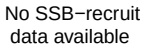
Reference points		
Parameter	Value	Units

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year					
Maximum year					
Time series minimum					
Time series maximum					
Units					









Assessment of Atlantic Coast spiny dogfish (*Squalus acanthias*)

Assessment ID:NEFSC-SDOGATLC-1962-2006-SOSEBEE
Issue URL: http://www.marinebiodiversity.ca/RAMlegacy/ramlegacy-bug-reporting/427

Area ID: USA-NMFS-ATLC

General assessment details.

Detail	Value
Management body	NMFS
Assessment group	Northeast Fisheries Science Center
Assessment authors	Northeast Fisheries Science Center
Assessment method	Unknown
Publication year	2006
Timeseries span	1962-2006
Document	./ (pdf not in database)
Recorder	SOSEBEE
Date entered	2009-04-21
Date last loaded	2009-12-11
QA/QC complete	NO
Date approved	

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

primary LME	secondary LME	tertiary LME
7 - Northeast U.S. Continental Shelf	6 - Southeast U.S. Continental Shelf	na

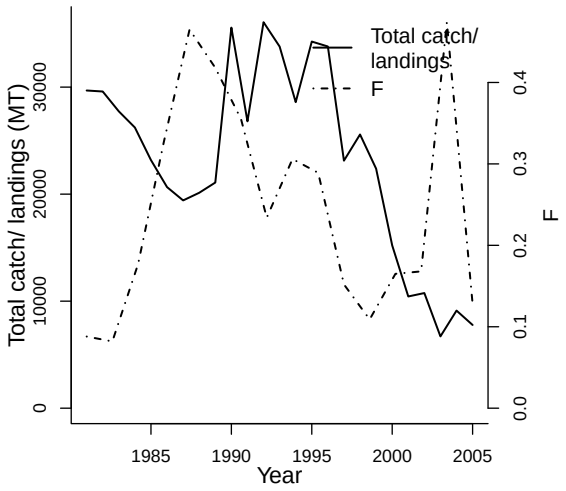
Parameter	Value	Units
REC-AGE		
SSB-AGE-yr		
TB-AGE-yr		
F-AGE-yr		
M		
A50-yr		
L50-cm		

Reference points		
Parameter	Value	Units

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year			1990		1981
Maximum year			2005		2005
Time series minimum			0.082		6707.68
Time series maximum			0.474		36063.57
Units			1/T		MT

No biomass data available

No recruitment data available



No SSB−recruit data available

Assessment of Gulf of Maine / Georges Bank-Southern New England smooth skate (*Malacoraja senta*)

Assessment ID:NEFSC-SSKAT5YZSNE-1963-2005-SOSEBEE
Issue URL: http://www.marinebiodiversity.ca/RAMlegacy/ramlegacy-bug-reporting/432

Area ID: USA-NMFS-5YZSNE

General assessment details.

Detail	Value
Management body	NMFS
Assessment group	Northeast Fisheries Science Center
Assessment authors	Northeast Fisheries Science Center
Assessment method	Temporal indices derived from scientific survey data
Publication year	2007
Timeseries span	1963-2005
Document	./ (pdf not in database)
Recorder	SOSEBEE
Date entered	2009-04-21
Date last loaded	2009-12-14
QA/QC complete	NO
Date approved	

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

primary LME	secondary LME	tertiary LME
7 - Northeast U.S. Continental Shelf	na	na

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

Reference points		
Parameter	Value	Units

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year					
Maximum year					
Time series minimum					
Time series maximum					
Units					

No biomass data available

No recruitment data available

No exploitation data available

No SSB−recruit data available

Assessment of Gulf of Maine / Georges Bank-Southern New England thorny skate (*Amblyraja radiata*)

Assessment ID:NEFSC-TSKAT5YZSNE-1963-2005-SOSEBEE
Issue URL: http://www.marinebiodiversity.ca/RAMlegacy/ramlegacy-bug-reporting/433

Area ID: USA-NMFS-5YZSNE

General assessment details.

Detail	Value
Management body	NMFS
Assessment group	Northeast Fisheries Science Center
Assessment authors	Northeast Fisheries Science Center
Assessment method	Temporal indices derived from scientific survey data
Publication year	2007
Timeseries span	1963-2005
Document	./ (pdf not in database)
Recorder	SOSEBEE
Date entered	2009-04-21
Date last loaded	2009-12-14
QA/QC complete	NO
Date approved	

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

primary LME	secondary LME	tertiary LME
7 - Northeast U.S. Continental Shelf	na	na

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

Reference points		
Parameter	Value	Units

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year					
Maximum year					
Time series minimum					
Time series maximum					
Units					

No biomass data available

No recruitment data available

No exploitation data available

No SSB−recruit data available

Assessment of Gulf of Maine / Georges Bank white hake (*Urophycis tenuis*)

Assessment ID:NEFSC-WHAKEGBGOM-1963-2007-SOSEBEE
Issue URL: http://www.marinebiodiversity.ca/RAMlegacy/ramlegacy-bug-reporting/415

Area ID: USA-NMFS-5YZ

General assessment details.

Detail	Value
Management body	NMFS
Assessment group	Northeast Fisheries Science Center
Assessment authors	Northeast Fisheries Science Center
Assessment method	Age-structured surplus production model
Publication year	2008
Timeseries span	1963-2007
Document	WhiteHake2008.pdf (pdf in database)
Recorder	SOSEBEE
Date entered	2009-04-20
Date last loaded	2009-11-03
QA/QC complete	NO
Date approved	

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

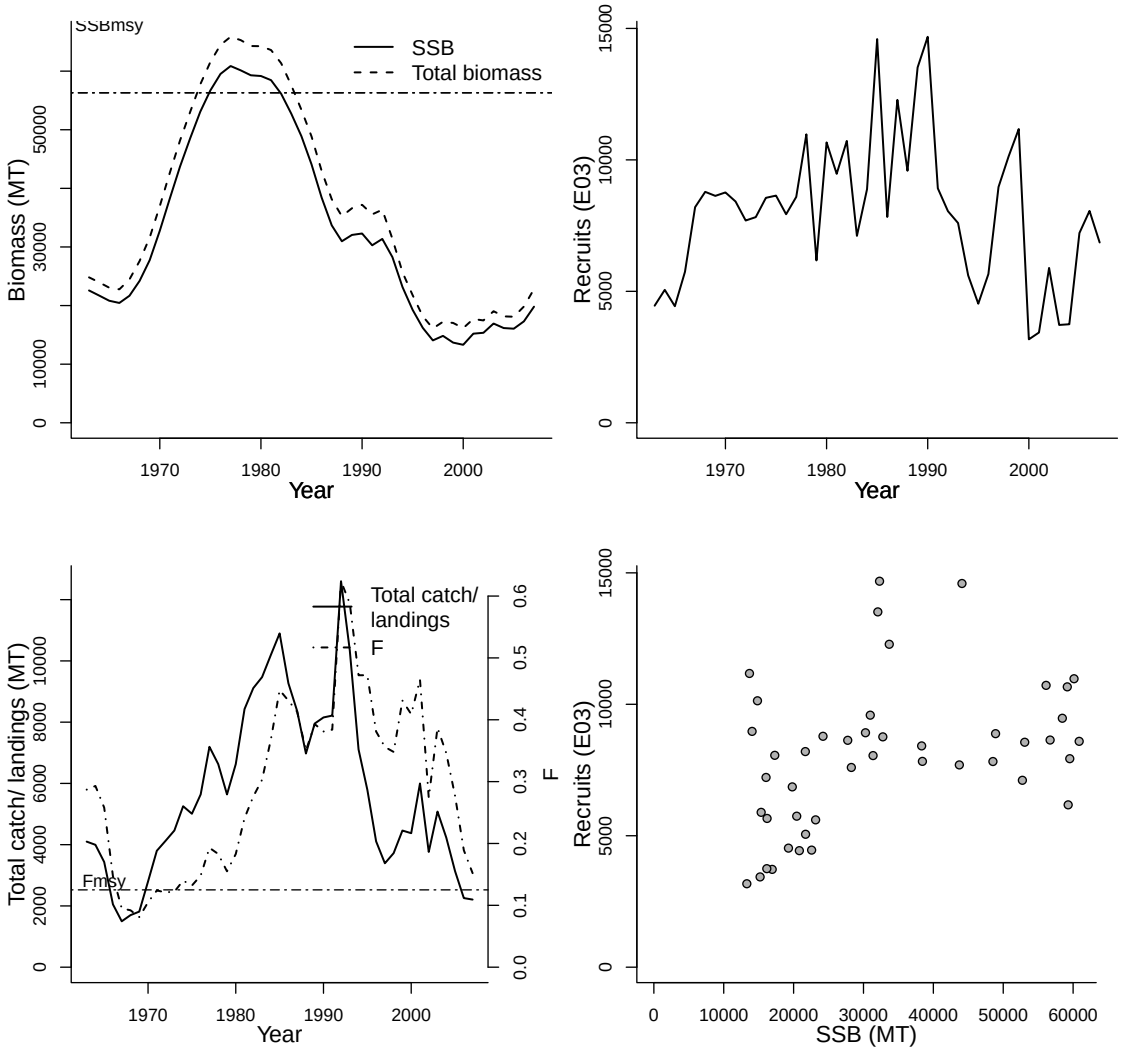
primary LME	secondary LME	tertiary LME
7 - Northeast U.S. Continental Shelf	na	na

Parameter	Value	Units
REC-AGE-yr	1	yr
F-AGE-yr-yr	1-9	yr-yr
TB-AGE-yr	1	yr
A50-yr	2.568	yr
M-1/T	0.2	1/T
SSB-AGE-yr		
M		
L50-cm		

Reference points

Parameter	Value	Units
Bmsy-MT (TB)	56300	MT
Fmsy-1/yr (F)	0.125	1/yr
SPRF0-E01 (SPR)	17.5788	E01
F40%-1/T	0.13	1/T
SSBmsy-MT (SSB)	56300	MT
MSY-MT (TB)	5800	MT
Frebuild-1/T (F)	0.13	1/T
TB_{2007}/B_{msy}	0.405	
F_{2007}/F_{msy}	1.216	
SSB_{2007}/SSB_{msy}	0.352	

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year	1963	1963	1963	1963	1963
Maximum year	2007	2007	2007	2007	2007
Time series minimum	13304	3173.77	0.081	16102.01	1498.41
Time series maximum	60869	14681.7	0.624	65856.89	12602.02
Units	MT	E03	1/T	MT	MT



Assessment of Gulf of Maine / Cape Hatteras winter skate (*Leucoraja ocellata*)

Assessment ID:NEFSC-WSKAT5YCHATT-1967-2005-SOSEBEE
Issue URL: http://www.marinebiodiversity.ca/RAMlegacy/ramlegacy-bug-reporting/434

Area ID: USA-NMFS-5YCHATT

General assessment details.

Detail	Value
Management body	NMFS
Assessment group	Northeast Fisheries Science Center
Assessment authors	Northeast Fisheries Science Center
Assessment method	Temporal indices derived from scientific survey data
Publication year	2007
Timeseries span	1967-2005
Document	./ (pdf not in database)
Recorder	SOSEBEE
Date entered	2009-04-21
Date last loaded	2009-12-14
QA/QC complete	NO
Date approved	

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

primary LME	secondary LME	tertiary LME
7 - Northeast U.S. Continental Shelf	na	na

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

Reference points		
Parameter	Value	Units

Time series minima and maxima					
	SSB	R	F	TB	Catch
Minimum year					
Maximum year					
Time series minimum					
Time series maximum					
Units					

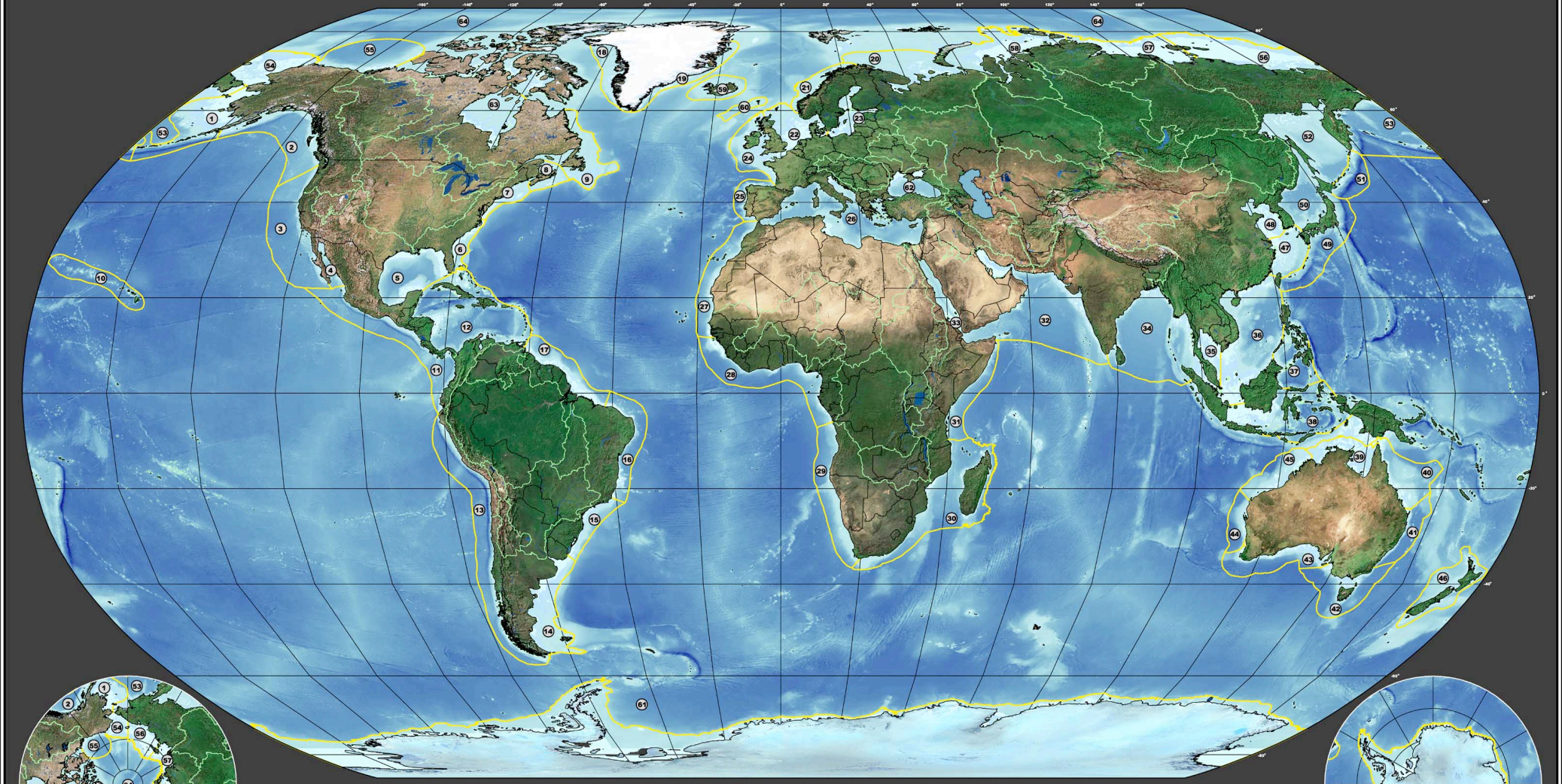
No biomass data available

No recruitment data available

No exploitation data available

No SSB−recruit data available

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.*

For More Information Visit: www.edc.uri.edu/lme

NORTH POLAR REGION

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