



الهيئة الإقليمية للمحافظة على
بيئة البحر الأحمر وخليج عدن

The Regional Organization for Conservation of
the Environment of the Red Sea and Gulf of Aden

Regional perspectives on a global Assessment and Needs for Decision-Making

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Focus

- The Red Sea and Gulf of Aden region
- The regional organization (PERSGA) and legal framework
- Regional perspectives and global process

Red Sea: has distinct oceanographic and geologic characteristics that favors rich coral reefs and marine biodiversity

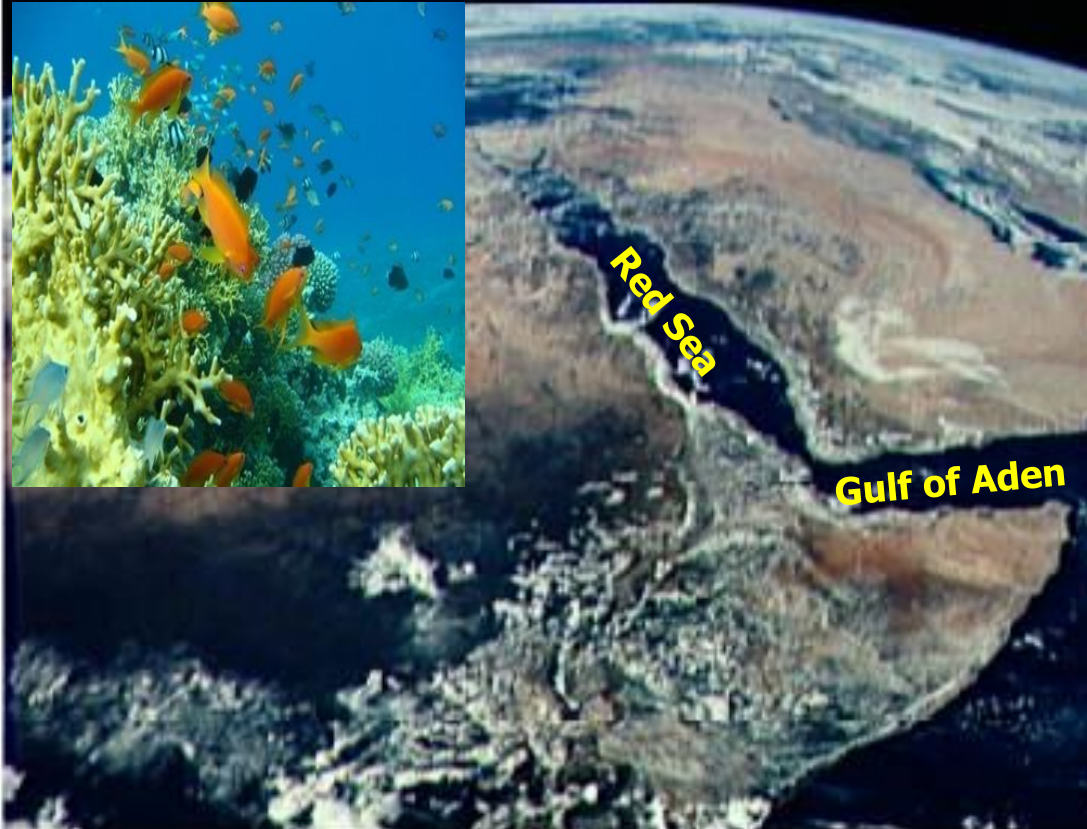
Red Sea is the warmest among the world's seas

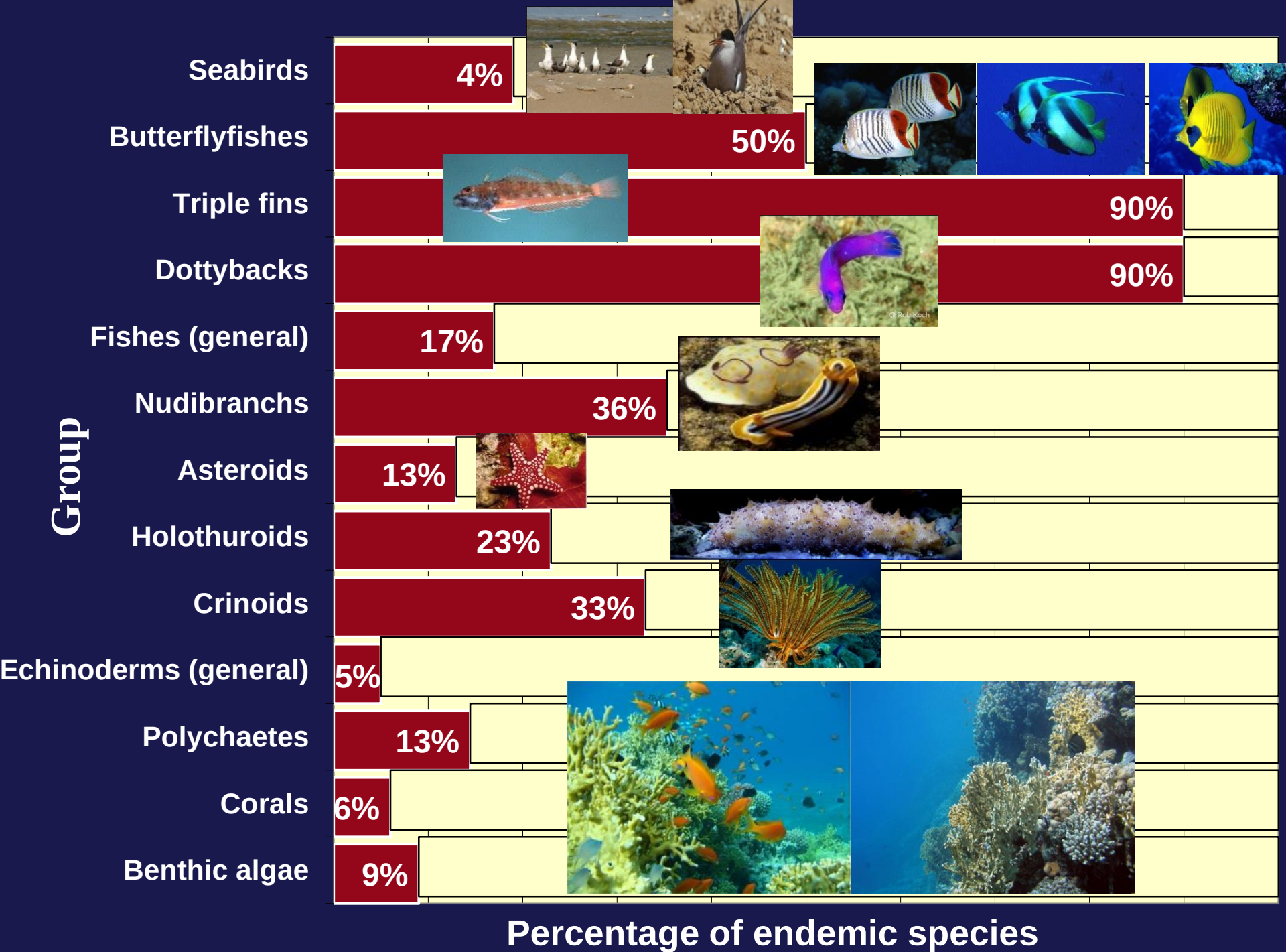
Arid area, high evaporation, high salinity, high transparency (no rivers)

Unique biodiversity and high endemism (around 30%)

Gulf of Aden: Upwelling and rich nutrients area

One of the richest water body in terms of primary production and fisheries





The Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA)

Jeddah Convention 1982

Regional Action Plan 1982

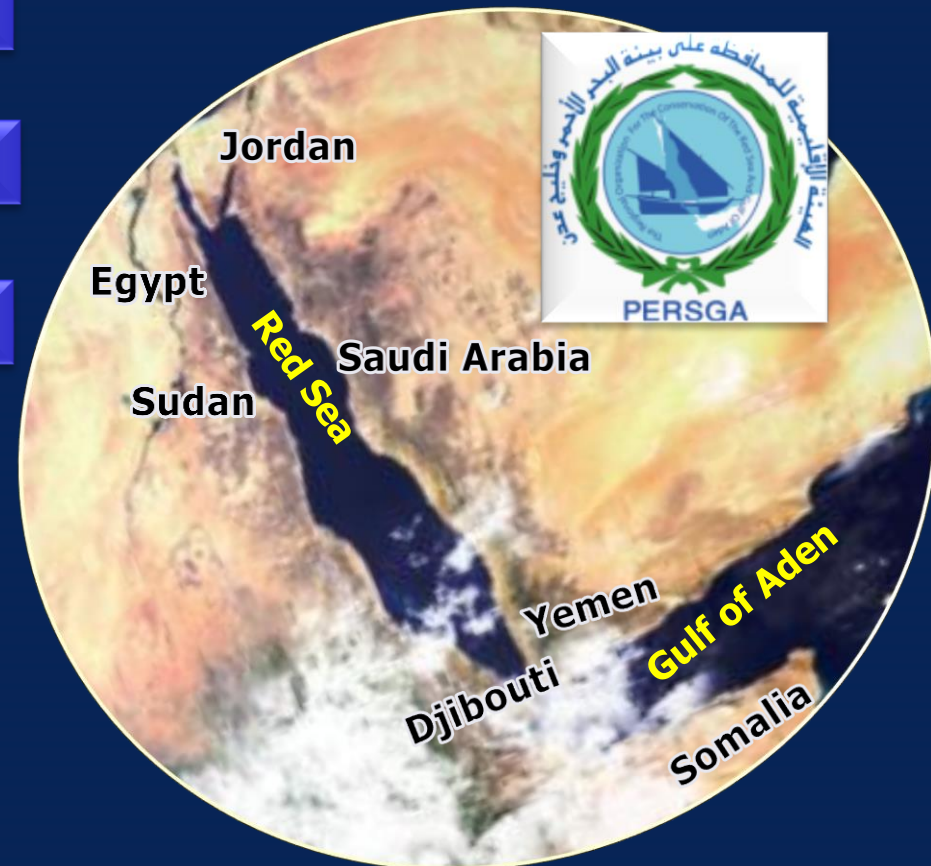
Four Regional Protocols

Oil and HNS (1982)

Biodiversity and MPAs Network (2005)

Land based Activities (2005)

Fisheries and Aquaculture (in progress)



Regional Legal Framework for SOMER Process



The Regional Organization for the Conservation of the Environment
of the Red Sea and Gulf of Aden

THE JEDDAH CONVENTION 1982

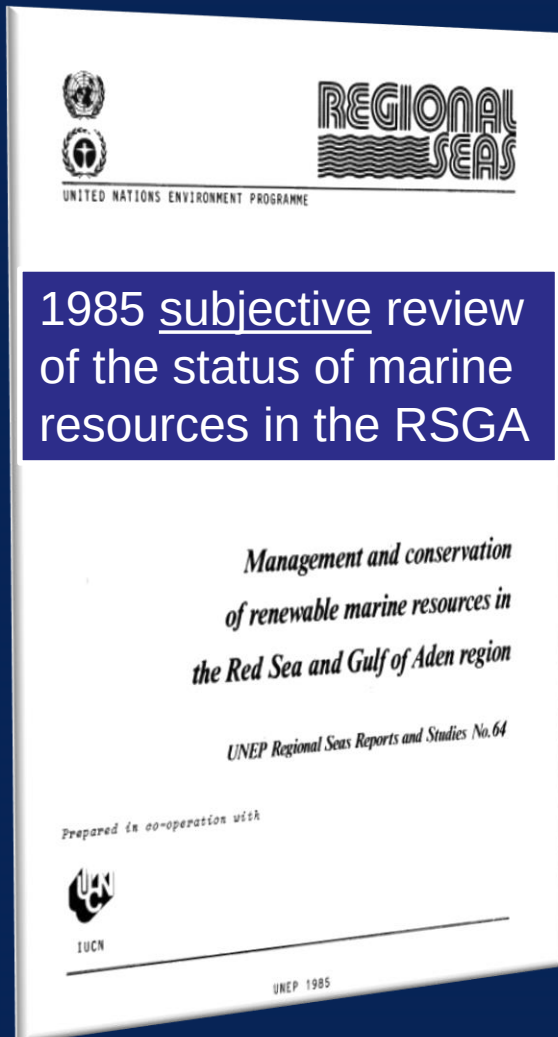
*Jeddah Convention
The Regional Convention for the
Conservation of the Red Sea and the
Gulf of Aden Environment
1982*

Article XVIII: Duties and Functions
of the Council.

f. To review and evaluate the
state of the marine environment
and coastal areas on the basis of
reports provided by the
Contracting Parties, or by the
international organizations
concerned.



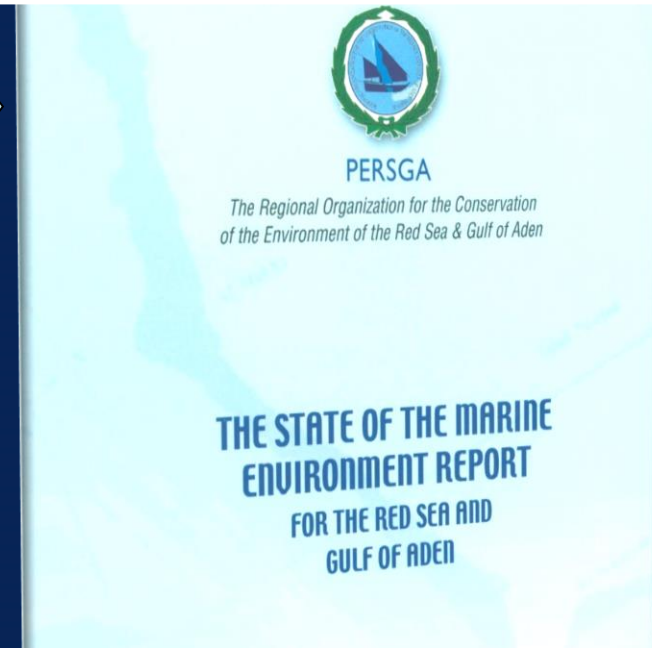
STATE OF THE MARINE ENVIRONMENT REPORTING in the RED SEA and GULF of ADEN (SOMERSGA)



TDA & SAP 1998-2004

Standard Survey Methods
and survey data for key
habitats and species;
impact assessments, etc

2006 PERSGA SOMERSGA I
produced using SAP information



Partly objective quantitative
data
However, No historical
objectively verifiable data to
assess trends from indicators

Strategic Ecosystem Management Project in the RSGA 2014–2018 (SEM Project)



C1 focused on MPAs management



MPA Management Effectiveness
DMMNP inscription as a UNESCO World Heritage
Community participation in MPAs



C2 focused on LMR and livelihood options in MPAs



Alternative livelihoods subprojects and income diversification
EA principles in legislations and policies
Sustainable fishery, ecotourism and eco-village concept,



C3 focused on monitoring for EBM



Update regional standard methods

Harmonization of regional monitoring methods and indicators

Improvement of SOMERSGA Process



Update PERSGA Regional Standard Survey Methods SSMs-2019

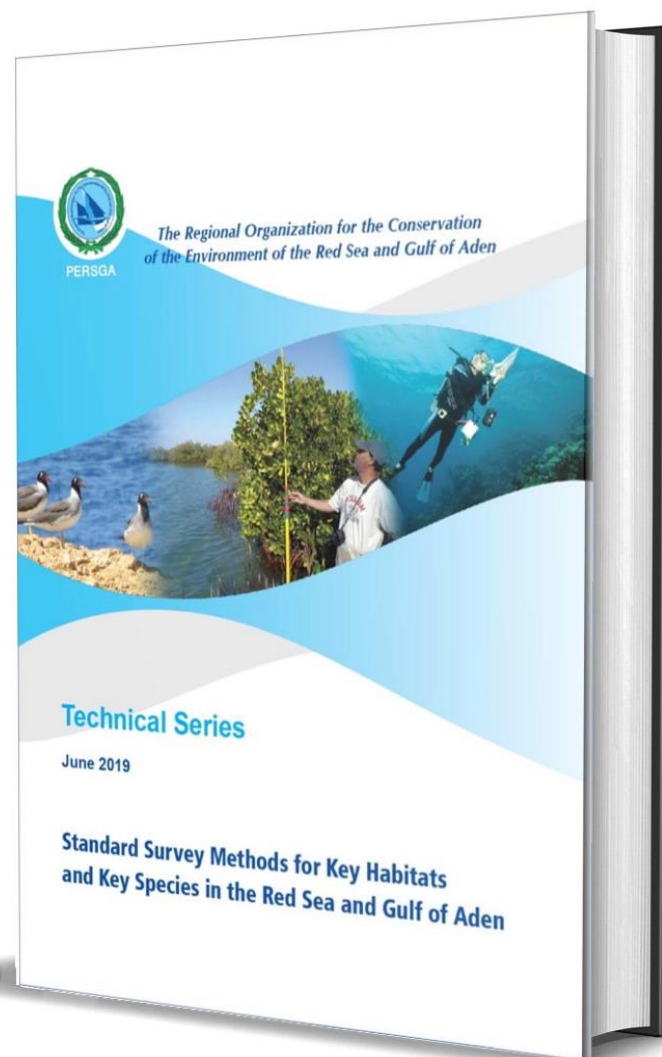
Revising chapters, adding 4 new chapters to promote monitoring informing EBM and **SOMERSGA Process**

PERSGA SSM 2004

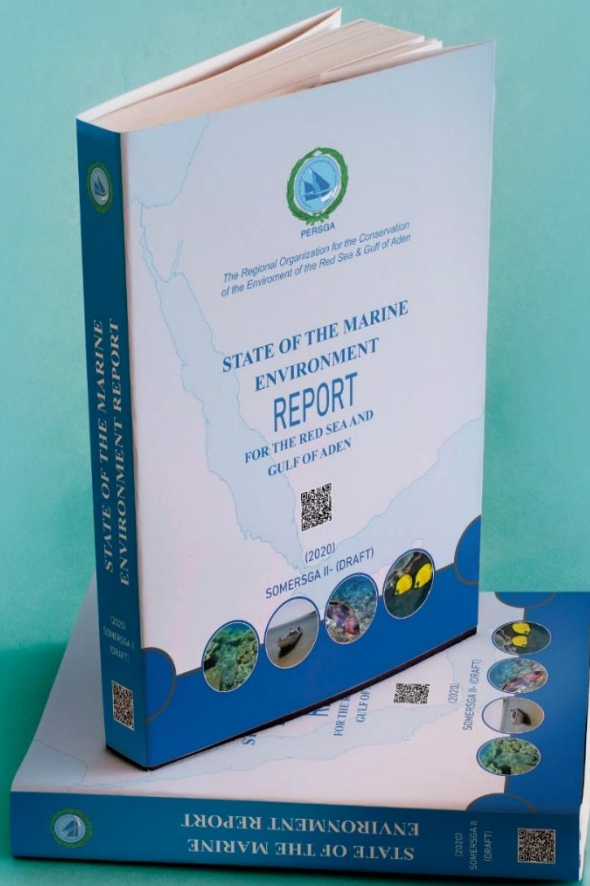
- Chapter 1. Rapid Coastal Environmental Assessment
- Chapter 2. Intertidal Biotopes
- Chapter 3. Corals and Coral Communities
- Chapter 4. Seagrasses and Seaweeds
- Chapter 5. Subtidal Habitats
- Chapter 6. Reef Fish
- Chapter 7. Marine Turtles
- Chapter 8. Breeding Seabirds
- Chapter 9. Marine Mammals

PERSGA SSM (2019) reviewed, updated and four chapters added:

- Chapter 10. Socio-economics Monitoring
- Chapter 11. Fisheries Monitoring
- Chapter 12. Assessment of MPA Management effectiveness
- Chapter 13. Water Quality Monitoring



Updating Approach, Objectives and establish Indicators for SOMERSGA (2020)



Consider informing Ecosystem Approach and EBM

Consider informing SDG14 and relevant MEAs

Conforming with UNCLOS SOMER REGULAR PROCESS – WOA (2015) and guidelines

Facilitate future SOMERSGA reporting process (2025, 2030, ..)

Simplification of SOMER Process and results presentation to support decision making



Conclusions

Legal framework for SOMER process in the region exists, and recommends collaboration with the global reporting

PERSGA SOMER reporting process updated to consider following guidelines of /contribute to the global process

SOMERSGA (2020) was meant to achieve the above objective, besides establishing regional indicators and simplification of the approach and results to assist DM mechanisms



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The Regional Organization for Conservation of
the Environment of the Red Sea and Gulf of Aden

**Relevant assessments, projects and programmes
carried within the region since 2017 and proposed
during 2022–2025, which the assessments under
the Regular Process can best build**

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Focus

SOMER RSGA (2020)

SOMER RSGA (2025)

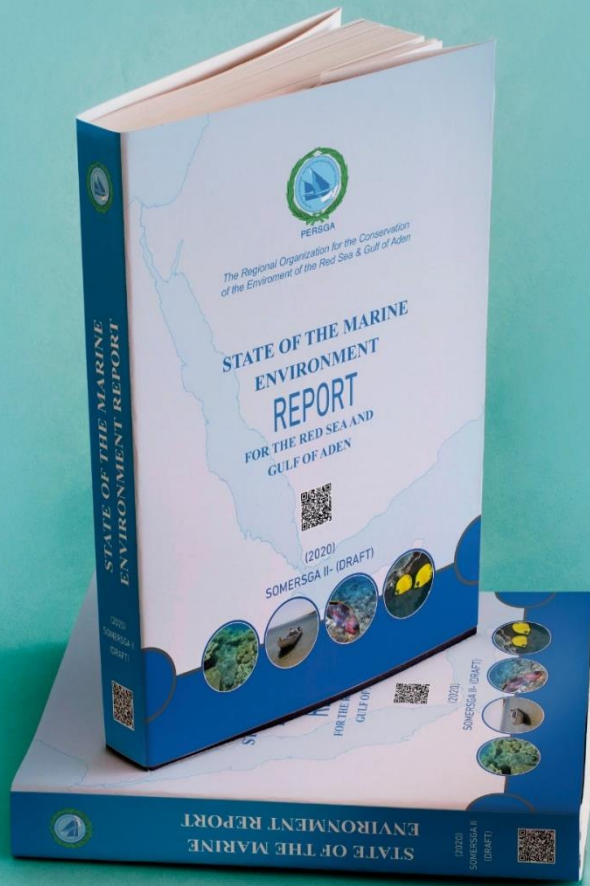
Relevant PERSGA regional programmes

Relevant PERSGA projects

- Sustainable Fishery Development in the RSGA (SFISH project)- WB
- Inclusive Approach for Harnessing Ecosystem Services and Sustainable Blue Economy (HESBE-RSGA)- UNEP/GEF

PERSGA SOMERSGA (2020)

Updating Approach, Objectives and establish Indicators for



Consider informing Ecosystem Approach and EBM

Consider informing SDG14 and relevant MEAs

Conforming with UNCLOS SOMER REGULAR PROCESS – WOA (2015) and guidelines

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Simplification of SOMER Process and results presentation to support decision making



Conforming with WOA (UNCLOS Global Assessment)

Regular Process 2015

The UNCLOS SOMER (WOA I) reporting structure has 7 sections and 55 subordinate chapters

- Follow similar reporting structure
- Creating a list of proposed regional indicators comprised going through the UNCLOS WOA I chapters
- Identifying key relevant, quantifiable, and objectively verifiable indicators, relevant to the region



The First Global Integrated
Marine Assessment

WORLD OCEAN ASSESSMENT I



UNITED NATIONS

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General Approach

Relevant – to UNCLOS SOMER/ and apply to the Region

Indicators Prioritised – by the ranking questionnaire

Objectively Quantified – objectively quantified information is available to determine status

Subjective assessment – subjective/qualitative assessment of status where objective information is not available

PRIORITIZING PERSGA SOMERSGA NEW INDICATORS

During the 4th Regional Meeting of Marine Academic and Research Institutes in PERSGA Member States, October 2018, Jeddah, KSA



PRIORITIZING PERSGA SOMERSGA NEW INDICATORS

Prioritizing – by the ranking questionnaire

No	INDICATOR	RANK (0 min to 10 <u>max</u> , ?)	DATA FOR YEARS			STATUS 2017/2018 (-1, <u>0</u> ,+1,?)
			<2000	2000- 2006	2007- 2018	
1	MARINE FISH LANDINGS					
2	MARINE AQUACULTURE PRODUCTION					
3	FISHER ASSOCIATIONS/MEMBERS					
4	MARINE STEWARDSHIP COUNCIL CERTIFIED WILD FISHERIES					
5	SHIPPING TONNAGE PASSING THROUGH THE RED SEA					
6	OIL SPILLS – ALL SOURCES (TONNAGE) BY YEAR					
7	PORTS BY ANNUAL TONNAGE WITH/WITHOUT ACCREDITED EMS					
8	PORTS WITH WASTE OIL RECEPTION FACILITIES					

Ranking: scores based on
importance and availability
of historical data

Subjective assessment as deteriorating (-1),
improving (+1), unchanged (0), or unknown (?) in
2017-2018

PRIORITIZING PERSGA SOMER II INDICATORS

The average of all scores was taken and ranked from highest to lowest

Table 1: Summary assessment of the overall status of SOMERSGA II indicators

SOMER II INDICATOR	SOMER II SCORE			
	Weight	Rank	Trend	Total
Live hard coral cover (year, site, % cover)	9.2	1	1	9.2
Marine biodiversity protected area (year/km ²)*	8.87	2	1	8.87
Population of the coastal zone (town/city)	8.8	3	-1	-8.8
Marine litter (year/site/occurrence)	8.8	3		
Mangrove (year/site/km ²)	8.8	3	0	0
Chlorophyll A values (year/site/value)	8.2	4		
Zero wastewater discharge practice (year/country)	8.13	5		
Oil spills (year/site/tonnes)	8	6	?	?
pH high accuracy (year/site/pH)	7.87	7		
Whale shark (year/site/number)	7.87	7	?	?
Wastewater treatment (year/site/m ³)	7.67	8		
Grouper (year/site/number)	7.64	9		
Napoleon wrasse (year/site/number)	7.57	10		
MPA PAME (year/MPA/score)	7.4	11	1	7.4
Coral bleaching (year/site/%)	7.4	11		
Dugong (year/site/number)	7.4	11	?	?
Ballast water reception (year/site/m ³)	7.33	12		
Marine Fish Landings (year/site/tonnes)	7.27	13	-1	-7.27
Ratified multilateral environmental agreements (year/number)	7.2	14	1	7.2

- 41 regional indicators were developed and prioritized
- Inform ecosystem based management in SOMERSGA 2020 report and comparison in future reports
- Provide mechanism for developing additional indicators to be used in future reports as needed

Indicators relate variously to socio-economics, pollution, habitat, species and management effectiveness

Fisheries	4
Ports/Shipping	4
Pollution	12
Tourism	3
Megafauna	8
Protected areas	2
Habitats	6
Coastal population	1
MEAs	1



SOURCING OF DATA Valid for SOMERSGA II

Should include 6 input information

Name of the indicator

e.g. Living hard coral

Location of observation

Best Lat. and long.

Date of the observation

dd/mm/yy

Unit of observation

% cover

A value

e.g. 25

A source

e.g. PERSGA TS 5, 2003



The overall status of an indicator can be based on:

1

Objective information from objectively verifiable data

Site ID	Country	Place name	Start		Finish		Number records	Date	Indicator	Unit	Value
			Latitude	Longitude	Latitude	Longitude					
958	Djibouti	Maskali	11.715050°	43.178133°	11.715600°	43.178817°	1	21-Apr-98	Live hard coral	% cover	35
961	Djibouti	Maskali	11.721500°	43.163083°	11.721333°	43.166117°	1	21-Apr-98	Live hard coral	% cover	40
964	Djibouti	Ile Maskali	11.718333°	43.157267°	11.718083°	43.156517°	1	21-Apr-98	Live hard coral	% cover	5
970	Djibouti	Ile Maskali	11.713850°	43.149350°	11.712633°	43.148700°	1	21-Apr-98	Live hard coral	% cover	5
973	Djibouti	Ile Maskali	11.706333°	43.153017°	11.705983°	43.154067°	1	21-Apr-98	Live hard coral	% cover	6
976	Djibouti	Ile Maskali	11.695033°	43.144817°	11.696167°	43.143683°	1	22-Apr-98	Live hard coral	% cover	4
979	Djibouti	Ile Maskali	11.744817°	43.169717°	11.745000°	43.171083°	1	22-Apr-98	Live hard coral	% cover	4
982	Djibouti	Iles Moucha	11.741133°	43.180733°	11.740833°	43.184167°	1	22-Apr-98	Live hard coral	% cover	5
985	Djibouti	Iles Moucha	11.747100°	43.218183°	11.747667°	43.214867°	1	22-Apr-98	Live hard coral	% cover	5
992	Djibouti	Iles Moucha	11.703583°	43.217383°	11.703667°	43.215717°	1	23-Apr-98	Live hard coral	% cover	4
995	Djibouti	Iles Moucha	11.714500°	43.224617°	11.715900°	43.224833°	1	23-Apr-98	Live hard coral	% cover	2
998	Djibouti	Iles Moucha	11.747433°	43.217350°	11.746917°	43.218783°	1	23-Apr-98	Live hard coral	% cover	2
1001	Djibouti	Iles Moucha	11.745350°	43.237550°	11.746200°	43.236333°	1	23-Apr-98	Live hard coral	% cover	3
1004	Djibouti	Iles Moucha	11.730500°	43.247917°	11.730167°	43.244900°	1	23-Apr-98	Live hard coral	% cover	2
1082	Djibouti	Iles Moucha	11.702733°	43.165933°	11.702800°	43.166933°	1	27-Apr-98	Live hard coral	% cover	4
1085	Djibouti	Iles Moucha	11.701000°	43.185183°	11.701550°	43.183517°	1	27-Apr-98	Live hard coral	% cover	5
1088	Djibouti	Iles Moucha	11.697083°	43.198550°	11.697750°	43.197617°	1	27-Apr-98	Live hard coral	% cover	6
Average											37.2
Standard deviation											17.0

Overall status as:

(-1) “deteriorating” (↓)

(+1) “improving” (↑)

(0) “unchanged” (↔)

(?) “unknown” (?).

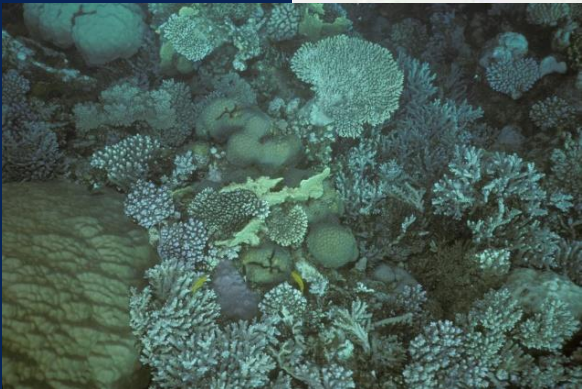
2

Subjective information from responses to the status questionnaire

No	INDICATOR	RANK (0 min to 10 max, ?)	DATA FOR YEARS			STATUS 2017/2018 (-1,0,+1,?)
			<2000	2000- 2006	2007- 2016	
32	LIVE HARD CORAL COVER					-1



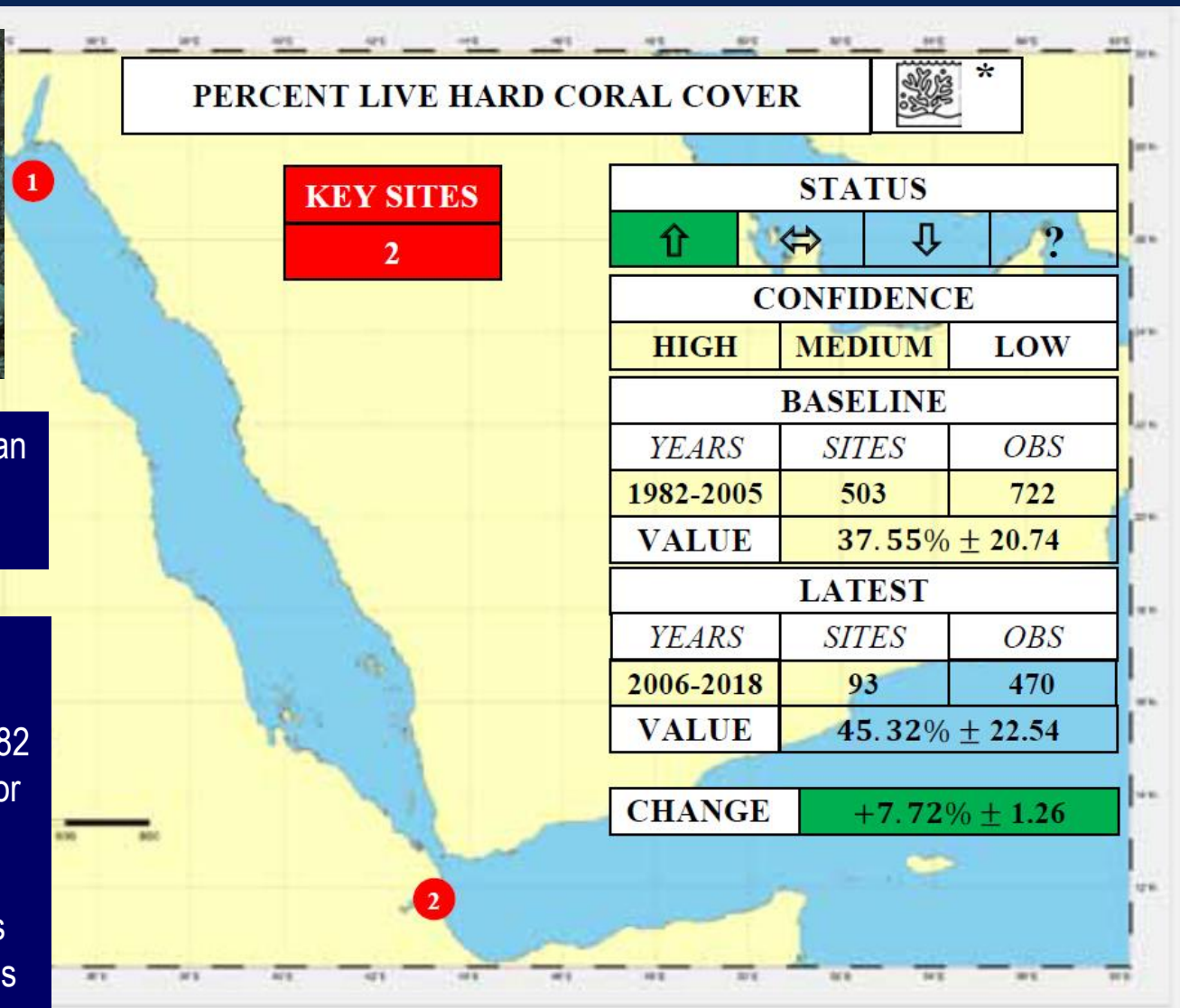
SOMERSGA II Indicator: Percent Live Hard Coral Cover



Ranked 1st in the indicators list with an environmental weighting of 9.2 out of 10 at PERSGA SOMER II workshop

An overall increase of 7.71% ±1.27 from an average 37.55% (median 35.55%) over the baseline period (1982 to 2005) to 45.26% (median 43.4%) for the follow-up period (2006 to 2018).

The baseline period uses 722 records at 503 sites. The follow-up period uses 470 records at 93 sites.



LEGALLY RECOGNISED MARINE PROTECTED AREA COVERAGE (km²)



KEY SITES

10

STATUS



CONFIDENCE

HIGH

MEDIUM

LOW

BASELINE

YEARS

SITES

OBS

2005

14

14

VALUE

30,303.67km²

LATEST

YEARS

SITES

OBS

2018

15

15

VALUE

36,871.96km²

CHANGE

+6,568.29km²



0 100 200 300 400 500
Kilometers



AREA OF MANGROVE COVER OF THE RED SEA (km²)



KEY SITES

2**

STATUS



CONFIDENCE

HIGH

MEDIUM

LOW

BASELINE

YEARS

SITES

OBS

2000

5765

1

VALUE

$132 \pm 0.5 \text{ km}^2$

LATEST

YEARS

SITES

OBS

2013

5157

1

VALUE

$135 \pm 0.86 \text{ km}^2$

CHANGE

$+3 \text{ km}^2 \pm ??$

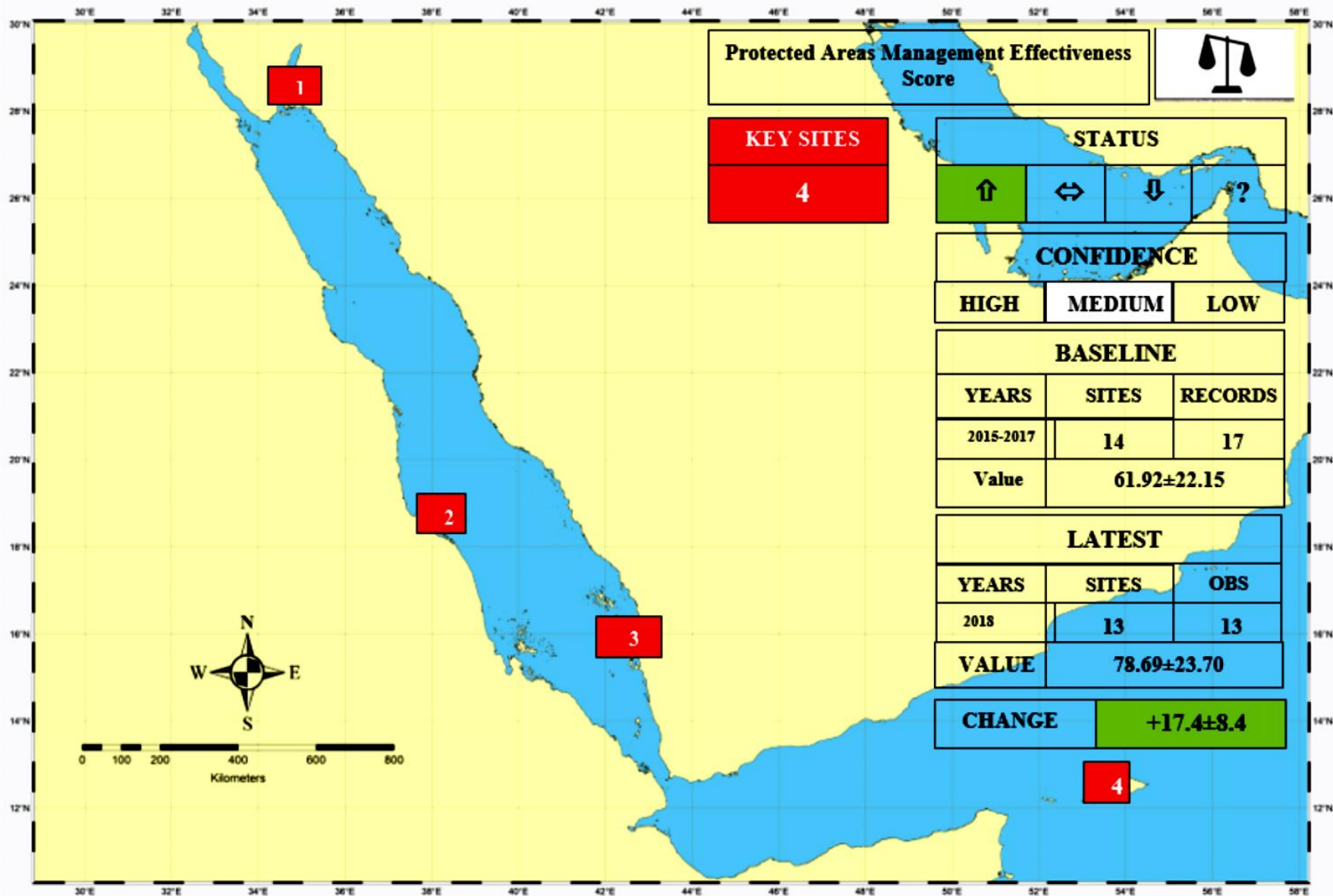


0 100 200 400 600 800
Kilometers

1

2





SOMERSGA II Indicator: Whale Sharks



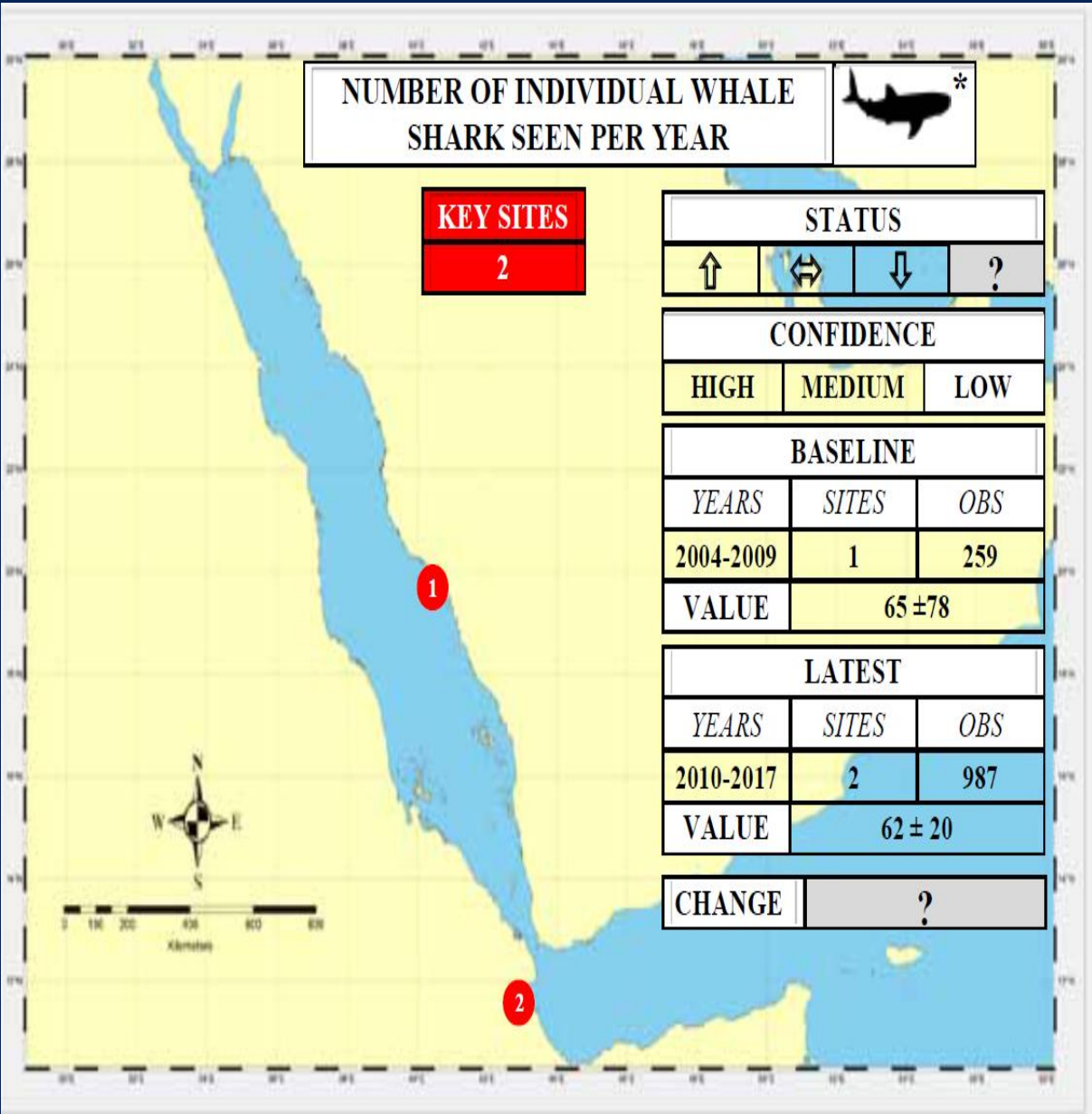
Ranked 7th in the indicators list with an environmental weighting of 7.87 out of 10 at PERSGA SOMER II workshop

The population in the Red Sea may well be increasing However, the number seen in the Shi'b Habil region has fallen

Many observed in the Red Sea appear to be sub-adults. Aggregations reflect sub-adult nursery grounds.

Key sites

- (1) The western Gulf of Tadjoura, in Djibouti, identified as a whale shark aggregation area since 2003.
- (2) Shi'b Habil in Saudi Arabia identified as a whale shark aggregation area since 2010.



RATIFIED MULTILATERAL ENVIRONMENTAL AGREEMENTS



KEY SITES

Not Applicable

STATUS



CONFIDENCE

HIGH

MEDIUM

LOW

BASELINE

YEARS

SITES

OBS

2005

44

158

VALUE

51%

LATEST

YEARS

SITES

OBS

2018

49

215

VALUE

63%

CHANGE

+12%



0 100 200 400 600 800

Kilometers



SHIPPING TONNAGE THROUGH THE SUEZ CANAL (1000 mt/year)



KEY SITES

3

STATUS



CONFIDENCE

HIGH

MEDIUM

LOW

BASELINE

YEARS

SITES

OBS

2000-2005

1

6

VALUE

530,421 ± 80,326

LATEST

YEARS

SITES

OBS

2006-2017

49

12

VALUE

902,646 ± 94,785

CHANGE

+377,225 ± 4,526

Shipping tonnage passing the region has increased,..

While quantitative and objective information on EMS accredited Ports in the region is not available



0 100 200 400 600 800
Kilometers



The overall SOMERSGA (2020) assessment based on all indicators used is calculated from:

1

The change in status for each SOMER indicator (-1, 0, +1) – (? is ignored but commented on).

X

2

Multiplied by the average ranking for each SOMER indicator determined from the ranking questionnaire.

Σ

3

Summed for all SOMER indicators.

OVERALL ASSESSMENT OF SOMERSGA II (2020)

- Integrates status of all analyzed indicators

Table 1: Summary assessment of the overall status of SOMERSGA II indicators

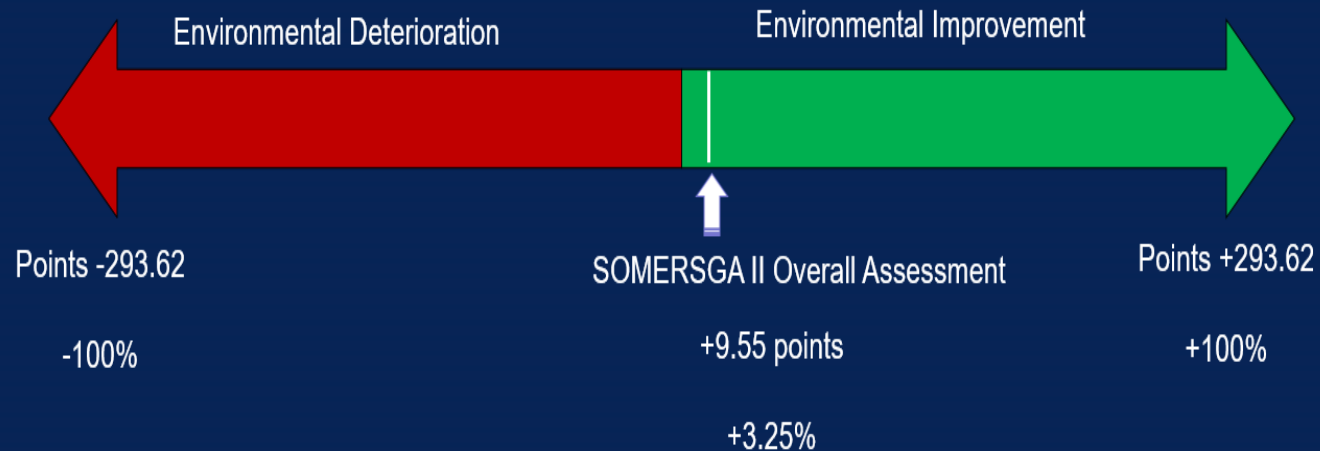
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Marine litter (year/site/occurrence)	8.8	3		
Mangrove (year/site/km ²)	8.8	3	0	0
Chlorophyll A values (year/site/value)	8.2	4		
Zero wastewater discharge practice (year/country)	8.13	5		
Oil spills (year/site/tonnes)	8	6	?	?
pH high accuracy (year/site/pH)	7.87	7		
Whale shark (year/site/number)	7.87	7	?	?
Wastewater treatment (year/site/m ³)	7.87	8		
Grouper (year/site/number)	7.64	9		
Napoleon wrasse (year/site/number)	7.57	10		
MPA PAME (year/MPA/score)	7.4	11	1	7.4
Coral bleaching (year/site/%)	7.4	11		
Dugong (year/site/number)	7.4	11	?	?
Ballast water reception (year/site/m ³)	7.33	12		
Marine Fish Landings (year/site/tonnes)	7.27	13	-1	-7.27

Ratified multilateral environmental agreements (year)
Solid waste coastal cleanup (year/site/tonnes)
Solid waste production (year/site/tonnes)
Waste oil reception (year/sites/tonnes)
Turtle nests (year/site/number)
Marine aquaculture (year/site/tonnes)
Hammerhead aggregations (year/site/number)
POPs in marine fish (year/site/value)
Certified coastal/marine nature tourism guides (year)
Manta ray (year/site/number)
Red Sea shipping (year/transit-delivery/tonnage)
Desalination capacity (year/site/m ³)
Registered dive boats (year/site/number)
Butterflyfish (year/site/number)
Blue flag beaches (year/site/number)
Managed landfill sites (year/site/tonnage)
Hard coral planted (year/site/km ²)
Clownfish (year/site/number)
EMS accredited Ports (year/site/tonnage)
Osprey nests (year/site/number)
Fisher association membership (year/organisation/number)
Mangrove planted (year/site/km ²)
MSC certified wild fisheries (year/fishery)

* "Coastal" areas are not included/defined

Total 293.62 Weight x trend 9.55

Key improving «+1» «0» unchanged «-1» deteriorating Data deficient ? Not analysed



However, this indicated improvement should not be viewed with complacency because:

- (1) many SOMERSGA indicators lack information on their status;
- (2) of the lag between the rapid pace of coastal development and the introduction of effective environmental management and;
- (3) the predicted incremental and increasing frequency of negative climate change impacts in the coming decades.

For more information on SOMERSGA (2020)

https://persga.org/Documents/Publications/QR_Downloads/English/SOMERSGA_2020.pdf

PERSGA SOMERSGA (2025)

The 19th PERSGA Ministerial Council Meeting approved SOMERSGA II and requested PERSGA to produce SOMERSGA III in 2025 (Council Resolution 1/19-(11/07/2021),

As recommended by SOMERSGA II report:

- (1) Identifying, and agreeing on key indicators for SOMERSGA III including social, economic and environmental indicators of RSGA “Ocean” value to humans.
- (2) Providing objective and quantitative information on key SOMERSGA III indicators
- (3) Special consideration: climate change; urban and tourism development; reduce, reuse, recycle (pollution, renewable energy, waste management); fisheries governance (IUU fishing); MPAs governance (protected area management effectiveness - PAME)

Relevant PERSGA Program Components

Annual Capacity Development and Training

Living Marine Resources

Biodiversity and Protected Areas

Environmental and Ecological Monitoring

Marine Pollution Control and Mutual Aids during Emergency

Controlling Pollution from Land-based Activities

GIS and Knowledge Management

Environmental Education and Awareness

Climate Change

On-ground and Demo Projects

Sustainable Fishery Development in the Red Sea and Gulf of Aden (SFISH Project) in Collaboration with the World Bank

2022-2026

Regional Component: Strengthening regional collaboration in management of marine fisheries and aquaculture in the RSGA, including 3 subcomponents

(a) PERSGA Regional Information Management System (RIMS), monitoring network and institutional capacity.

(b) Regional platforms for capacity building and regional coordination of sustainable fisheries and aquaculture in the regional management mechanism.

(c) Citizen, private sector and development partner engagement in the regional sustainable fishery mechanism through enhanced knowledge management, communication strategies and awareness



An Inclusive Approach for Harnessing Ecosystem Services and Sustainable Blue Economy in RSGA In Collaboration with UNEP/ GEF

2023-2027

C1. Harnessing Ecosystem Services and Resilience Supporting SBE

C2. Reforming Key BE Sectors Governance & Sustainability

C3. Partnerships for BEPs, Circularity & Eco-business

C4. Enhancing SBE KM, Visibility & Awareness





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Thank You...