**Red grouper**

**Gulf of Mexico and NW Atlantic**

**Fishery:** Southern Gulf of Mexico  
**Mexico Gulf of Mexico**

**Bottom-set longlines**

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### IDENTIFICATION

**SCIENTIFIC NAME:** 
*Epinephelus morio*

**SPECIES NAME(S):** 
Red grouper

**COMMON NAMES:** 
Mero

**STOCK IDENTIFICATION**

Genetic analyses have shown low genetic variation across red grouper’s US and Mexican distribution suggesting the existence of a single stock, but not ruling out the possibility of several reproductively distinct stocks, supported by distribution discontinuity and life-history traits (Richardson and Gold 1997; Zatcoff et al. 2004). Until further studies become available, we are using the former structure.

A 2017 study proposes adoption of the concept of a noxicline, or subarea unit, for which EBFM targets and limits can be set, which could be more appropriate for this species in this area (Arreguín-Sánchez et al. 2017). This is not currently being used.

Mexican and US stocks are minimally connected (SEDAR and Southeast Data, Assessment, and Review (SEDAR) 2015).

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### RELATED LINKS:

- Mexican Secretary of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA), Mexico National Commission of Aquaculture and Fisheries (CONAPESCA)
- Mexico National Fisheries Institute (INAPESCA)
- [Google Image Search](https://www.google.com/search?q=red+grouper+gulf+of+Mexico&src=ps&sa=X&ved=2ahUKEwiVyleMr4bjAhXh1pQKHe0NAZcQoAH6BAgCEAI)

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### ASSESSMENT

#### Strengths

- Seasonal closures to protect the spawning season are declared since 2003 and a minimum landing size is defined.
- A network of marine protected areas is established and protected species identified.
- Closed area size has increased and data collection improved.
- There is a group of main target species and associated species in the multispecies fishery which are identified and quantified.
- A management plan for red grouper and associated species was implemented in 2007 and updated in 2014 and 2016. This includes regulations for a fleet entry permit system, minimum landing size, gear specifications regulations, seasonal closure windows, and VMS requirements.
- Gear selectivity improvements have caused the average landed size of red grouper to go up from 44.3cm in 1980-2002, to 51.3 in 2003-2010.
- A permanent scientific programme has been established to improve biological knowledge of the stocks and environment, aiming to help them recover.

#### Weaknesses

- Catch limits are not defined.
- The stock is “in deterioration” with biomass below limit reference point, 2010 biomass estimates represented a decrease of 60% in comparison with 1980 estimates.
- Fishing mortality reference points are not defined.
- The minimum landing size is not adequate according to biological characteristics of the species.
- There are signs of non-compliance in protected areas.
- Interaction of the fishery with protected species is not known but vulnerable ones are identified.
- Data on discards is not available.
- 40% of artisanal fleet landings were below minimum landing size in 2012.
- Fleet size and effort limits have been enacted but are not being enforced.

#### Options

- Implement annual quotas / catch limits
- Based on a precautionary approach, the fishing effort should be reduced.
- Define fishing reference points.
- Improve compliance.
- Improve data gathering operations.

#### SCORES

**Management Quality:**

<table>
<thead>
<tr>
<th>Management Strategy</th>
<th>Managers Compliance</th>
<th>Fishers Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>&lt; 6 to 10</td>
<td>&lt; 6 to 10</td>
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</table>

**Stock Health:**

<table>
<thead>
<tr>
<th>Current Health</th>
<th>Future Health</th>
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<tbody>
<tr>
<td>2.3 ±10</td>
<td>9.9</td>
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**FIPS**

Mexico Yucatan red and black grouper - Longline: Stage 4, Progress Rating A, Type: Fp, Evaluation Start Date: 4 Jun 2014

**MSC**

No related MSC fisheries

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### RECOMMENDATIONS

**RETAILERS & SUPPLY CHAIN**

- Develop a system to report catch by species.
- Work with scientists to develop a formal stock assessment for red grouper.
- Ask INAPESCA to update the National Fisheries Chart (Carta Nacional Pesquera) with specific advice for sustainable management of red grouper, including fishing mortality reference points and a harvest control rule, and effort limitation for the artisanal fleet.
- Work with managers to implement the regulations specified in the 2014 multi-species grouper fishery management plan and in accordance with...
- Ask managers to implement an observer program with adequate coverage to collect informative data on bycatch and fishery interactions with endangered, threatened, and protected species.
- Press the government to enhance enforcement and control measures to ensure compliance with fishery regulations, particularly those related to seasonal and spatial closures, minimum legal sizes, and fishing effort.