


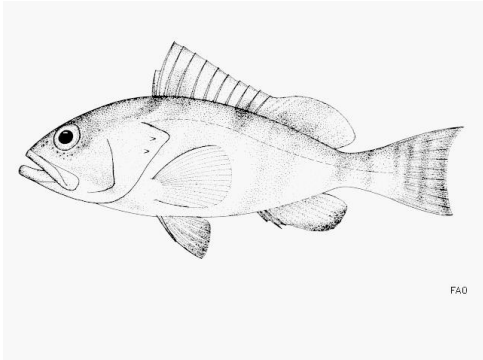


Red grouper Gulf of Mexico and NW Atlantic

Fishery:  Southern Gulf of Mexico  Mexico Gulf of Mexico  Mexico  Handlines hand operated

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 noxiline, 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*).



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 \(INAPESCA\)](#)

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 then 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 fisheries reference points
- Improve compliance
- Improve data gathering operations

SCORES

Management Quality:

Management Strategy	Managers Compliance	Fishers Compliance
4.0 to 7.3	< 6 to 10	< 6 to 10

Stock Health:

Current Health	Future Health
2.3 to 10	< 6 to 9.9

FIPS

No related FIPs

MSC

No related MSC fisheries

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 advice from INAPESCA.
- 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.