### **Redfish in Division 30**

### Recommendation for 2026-2028

The stock has decreased since 2012 and there is a 62% risk of the stock being below  $B_{lim}$  in 2024.

To be consistent with the NAFO Precautionary Approach, Scientific Council advises that no directed fishery should occur in 2026, 2027, and 2028. Bycatch should be kept at the lowest possible level.

# **Management objectives**

No explicit management plan or management objectives have been defined by the Commission. Convention General Principles are applied.

Convention Principle	Status	Comment	01/
Restore to or maintain at Bmsy		B < Blim	OK Intermed
Eliminate Overfishing (Stock)		F > Flim	Not acco
Eliminate Overfishing (Ecosystem)		Total EPU catches < 2TCI	
Apply Precautionary Approach		All PA reference points defined	
Minimize harmful impacts on living marine resources and ecosystems		Directed fishery, VME closures in effect, Effectiveness of bycatch regulations uncertain	
Preserve marine biodiversity		Cannot be evaluated	

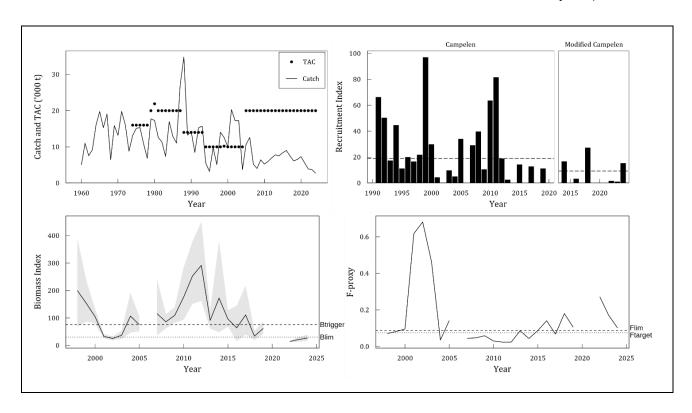
### Management unit

The management unit is NAFO Div. 30.

### Stock status

Redfish in Div. 30 is in the Critical Zone. Biomass in 2024 was below the limit reference point ( $B_{lim} = 0.3 \ B_{msy}$ -proxy) with a moderate probability [P(B<sub>2024</sub>>  $B_{lim}$ )> 0.62]. The fishing mortality proxy was above  $F_{target}$  [P(F<sub>2024</sub>> $F_{target}$ )>0.58] and  $F_{lim}$  [P(F<sub>2024</sub>> $F_{lim}$ )>0.53].

Recruitment in 2024 was above the median of comparable survey values since 2014, but the short time series limits confidence in interpreting this as a meaningful trend.



## Reference points

The biomass limit reference point for this stock was updated from that accepted at the 2022 assessment given the lack of conversion factors for the Canadian autumn survey and the inability to rescale autumn Campelen data. The rescaled Canadian spring survey is now used as the basis for this reference point, with the average of the survey time series being considered a proxy for  $B_{msy}$ .  $B_{lim}$  is defined at 30% of the proxy- $B_{msy}$  level and  $B_{trigger}$  is defined as 75% of the proxy- $B_{msy}$  level. Similarly,  $F_{msy}$  was considered as the average of the  $F_{proxy}$  time-series (1998-2024) and  $F_{target}$  is 0.85  $F_{msy}$ .

### **Projections**

Projections cannot be provided for this stock at this time.

#### Assessment

This assessment is based upon an evaluation of survey biomass, recruitment indices and a fishing mortality proxy. The rescaled Canadian spring series is used to determine the state of the stock. The assessment is indexbased and associated with relatively high uncertainty.

The next full assessment of this stock will be in 2028.

#### Human impact

Mainly fishery-related mortality has been documented. Other sources (e.g. pollution, shipping, oil-industry) are undocumented.

### Biological and environmental interactions

There are three species of the genus *Sebastes* with distribution overlapping in several areas of Northwest Atlantic, the deep sea redfish (*Sebastes mentella*), Acadian redfish (*Sebastes fasciatus*), and golden redfish (*Sebastes norvegicus*).

Redfish diet in the Grand Bank (3LNO) EPU typically includes large zooplankton species (e.g. amphipods, euphausiids), small forage fishes (e.g. sandlance and capelin), and occasionally shrimp.

The Grand Bank (3LNO) Ecosystem Production Unit (EPU) continues experiencing low productivity conditions, with EPU biomass well below pre-collapse levels (pre-1990s). Rebuilding was observed since the 1990s, but declines across multiple trophic levels and stocks occurred after 2014. Positive signals have been observed since these declines, with biomass approaching the early-mid 2010s level in recent years.

### **Fishery**

Redfish are caught primarily in bottom trawl fisheries, but in the past, some landings were reported from midwater trawl fisheries. The fishery likely captures a combination of all three species of redfish. In directed redfish fisheries, Atlantic cod, American plaice, witch flounder and other species are landed as bycatch. In turn, redfish are also caught as bycatch in fisheries directing for other species.

Recent catch estimates and TACs ('000 t) are:

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
TAC	20	20	20	20	20	20	20	20	20	20
STATLANT 21	8.6	7.3	4.3	6.5	7.3	5.5	NA	NA	NA	
STACFIS	9.0	7.5	6.1	6.5	7.3	5.6	3.9	3.7	2.7	

NA - In 2022-2024, STATLANT 21 information is incomplete.

### **Ecosystem sustainability of catches**

The impact of bottom fishing activities on VMEs in the NRA was last assessed in 2021. The risk of Significant Adverse Impacts (SAIs) on sponge and large gorgonian VMEs was assessed to be low, while this risk for sea pen VMEs has been assessed as intermediate. The risks of SAIs on small gorgonian, black coral, bryozoan and sea squirt VMEs were assessed as high. Some areas in the Grand Bank (3LNO) EPU have been closed to bottom fishing to protect sponge and coral species.

30 redfish is included in the piscivores guild of the Grand Bank (3LNO) Ecosystem Production Unit (EPU). Other NAFO managed stocks in this guild within the EPU include Divs. 3LN redfish, 3NO cod, 3NOPs white hake, and 2+3KLMNOPs Greenland halibut. The Catch/TCI for 2024 was below the 2TCI ecosystem reference point (3LNO Piscivore Catch2024/TCI=1.54).

### **Special comments**

Redfish are known to have variable and episodic recruitment, with potentially large periods of time between recruitment pulses and no strong relationships between stock size and recruitment.

Species separation methods are still under development for this stock.

Impacts of delineations of stock boundaries and synchronicity between adjacent stocks are unknown.

#### **Sources of information**

SCR Doc. 25/06, SCS Doc. 25/05, 08, 09.