



STOCK STATUS UPDATE FOR AMERICAN LOBSTER (*HOMARUS AMERICANUS*) IN LOBSTER FISHING AREAS 27– 32

CONTEXT

The Resource Management Branch of Fisheries and Oceans (DFO), Maritimes Region, has requested an update to stock status for [American Lobster](#) (*Homarus americanus*) in Lobster Fishing Areas (LFAs) 27–32. This Fisheries Science Response is from the regional peer review meeting of January 29, 2026, on the Stock Status Update for American Lobster in Lobster Fishing Area 27–32.

SCIENCE ADVICE

Status

- LFAs 27–32 Lobster stocks are all in the healthy zone, above the upper stock reference (USR).
- The primary productivity indicator (commercial catch rate) for these stocks indicates that there has been no change in stock status since the last assessment.
- Harvesting continues to occur below the removal reference (RR). These stocks are not considered as being overfished.

Trends

- The primary indicator of productivity (commercial catch rate) has increased over the past 25 years, though not at the same rate in all LFAs. Most LFAs are near 40-year time series highs, other than LFAs 29 and 30 that peaked in the late-2010s.
- The primary exploitation indicator shows year-to-year variability within each LFA but overall has remained relatively stable across the time series. LFA 30 has shown a general increasing trend since 2015.
- Landings have closely mirrored catch rates, as effort levels have remained relatively stable across LFAs 27–32 for the past ten years. Landings for 2025 are preliminary but are expected to be below 2024 levels in LFAs 30 and 32 and near 2024 levels in the other LFAs.
- Recruitment indices in LFAs 27–32 have shown a general increasing trend over the past two decades and are at or near all-time highs across the time series in all LFAs.

Ecosystem and Climate Change Considerations

- The overall impact of ecosystem variables or changing ocean conditions on LFA 27–32 Lobster stocks productivity is unknown. Changes in ecosystem variables, such as water

temperature and pH, can affect Lobster behaviour that in turn can affect catch rates, which is the primary indicator of productivity in LFAs 27–32.

Stock Advice

- The LFA 27–32 Lobster stocks are in the healthy zone; the current harvest strategy has maintained the stocks in the healthy zone, with exploitation being below the RR (there is no exploitation data available for LFA 28).

BASIS FOR ASSESSMENT**Assessment Details****Year Assessment Approach was Approved**

October 1, 2018 (Cook et al, 2020)

Assessment Type

Interim Year Update

Most Recent Assessment Date

Interim Year Update

1. Last Full Assessment: February 11–12, 2019 (DFO 2020)
2. Last Interim-Year Update: January 24, 2023 (DFO 2023)

Stock Assessment Approach

1. Broad category: multiple approaches
2. Specific category: Index-based (including fishery-dependent and fishery-independent indices)

The primary indicator of productivity is the fishery-dependent unmodelled catch rate in kilograms per trap haul from commercial logbooks.

The primary indicator of exploitation is derived through a continuous change in ratio (CCIR) modelling approach applied to fishery-independent data. The CCIR method provides estimates of population parameters based on changes over a single fishing season in observed proportions of size components within the population; the proportion of reference individuals (sublegal-sized Lobster) increases with the cumulative removals of the exploitable (legal-sized) component (DFO 2020).

Landings data from commercial logbooks (fishery dependent) and the catch rate of recruits one year from the fishery (R-1) from fishery-independent data are both tracked as secondary indicators of these stocks but are not compared to established reference points.

Stock, Ecosystem, and Fishery Overview Information

The LFA 27–32 Lobster stocks are part of the broader Lobster population on the Scotian Shelf. The LFA 27–32 Lobster fishery is a trap-based fishery in eastern Nova Scotia (Figure A1) with a two-month fishing season. Season dates vary between these LFAs, but all fall within an overall time window of mid-April to mid-July (DFO 2020).

Stock Structure Assumption

LFAs 27–32 are management-based stock units and do not represent biological units. Each LFA has reference points independent of each other, including adjacent LFAs. Movement of Lobster between management areas is known to occur but not quantified in this assessment approach.

Reference Points

Table 1. Reference points for Lobster Fishing Areas (LFAs) 27–32. Productivity reference points are in kilogram per trap haul. N/A indicates not available.

LFA	Limit Reference Point (LRP)	Upper Stock Reference (USR)	Removal Reference (RR)	Target Reference Point (TRP)
27	0.14	0.27	0.89	N/A
28	0.12	0.25	N/A ¹	N/A
29	0.11	0.22	0.83	N/A
30	0.28	0.56	0.83	N/A
31A	0.16	0.31	0.86	N/A
31B	0.16	0.32	0.84	N/A
32	0.14	0.29	0.84	N/A

¹ Insufficient data to determine removal reference (RR).

Catch per unit effort (CPUE) data from 1990–2016 was used to define the USR and limit reference point (LRP) (Cook et al. 2020). The LFA-specific median of this time series is used as a proxy of biomass at maximum sustainable yield (BMSY) and the USR and LRP were set to 80% and 40% of this BMSY proxy, respectively. The RR is defined as the 75th quantile of the posterior distribution of the maximum modeled CCIR exploitation rate across the time series within each LFA.

For both primary indicators, the LFA-specific three-year running median is compared to its respective reference point for that LFA.

Data

Fishery-dependent commercial logbooks are used for the productivity indicator and secondary indicators of landings and effort for LFAs 27–32. These logbooks include information on fishing date, location (by reporting grid), effort, and estimated catch. At the time of drafting this stock update, some commercial logbooks were outstanding and therefore could not be included in this assessment. For 2025, for LFAs using traditional paper logbook reporting (LFAs 27, 31A, 31B, 32), missing logbooks range from 24% in LFA 27 to 7% in LFA 31B. For LFAs using mandatory electronic logbooks, or eLogs (LFAs 28, 29 and 30), daily reporting is legally required; however, the transition to eLogs made it difficult to assess actual daily submission rates.

Fishery-independent data from a recruitment-trap project is used to inform the primary indicator of exploitation and the secondary indicator of recruitment through sub-legal sized Lobster (recruitment) catch rates. This project relies on volunteer fishers to provide detailed data on Lobster captured in standardized traps throughout the commercial fishing season. LFA 28 does not collect sufficient data to inform exploitation or recruitment indices. At the time of drafting this stock update, not all data from this data source was available for 2025. This missing data range from 5% in LFA 32 to 30% in LFA 27.

ASSESSMENT

History of Landings, Effort, and Catch Rates

LFAs 27–32 are located on the Atlantic coast of eastern Nova Scotia. Over the past 20 years, fishing effort (as measured by total trap hauls) has remained relatively stable, as these LFAs have relatively short two-month fishing seasons. Harvesters generally fish their full gear complement on all days of the fishing season, as weather permits. Over this same time period, catch rates (and resulting landings) began increasing in the early to mid-2000s after being relatively stable for the preceding 20 years in most of these LFAs. Though LFAs 29 and 31A experienced a downward trending catch rate from the early- to mid-2010s, both have rebounded and catch rates and landings for all LFAs remain high (with near record levels in LFAs 27, 31A, 31B, and 32).

The primary indicator of productivity (commercial catch rate) is not expected to change substantially with the addition of missing logbook data; however, landings and effort will increase as they are cumulative for all logs received.

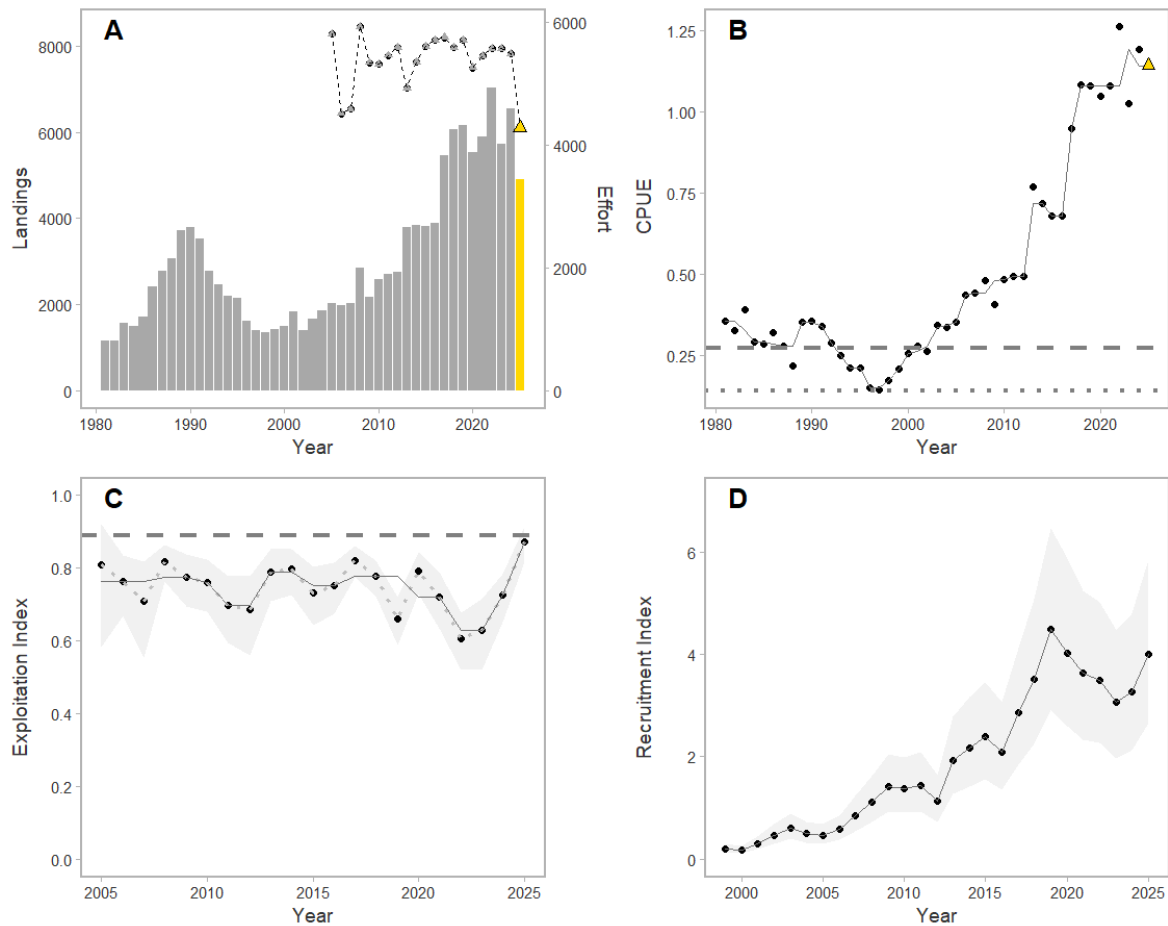


Figure 1. Lobster Fishing Area 27. (A) Time series of landings (tonnes; bars) and effort ('000s trap hauls; line), note incomplete 2025 landings and effort records (yellow); (B) Commercial catch rates (catch per unit effort [CPUE]) in kilograms per trap haul (kg/th; black dots) in relation to the limit reference point (LRP, dotted) and upper stock reference (USR, dashed), note the yellow triangle denotes incomplete data for the 2025 fishing season; (C) Time series of continuous change in ratio (CCIR)-method exploitation estimates (black dots) with 95% credible intervals (grey shading) and the removal reference (RR) (dashed grey line); (D) Time series of recruitment-trap catch rates in Lobsters per trap (black points), with 95% credible intervals (grey shading) from modelled sublegal-sized (greater than or equal to 70 mm to less than 82.5 mm) Lobsters. In Panels B and C, the solid lines represent three-year running medians.

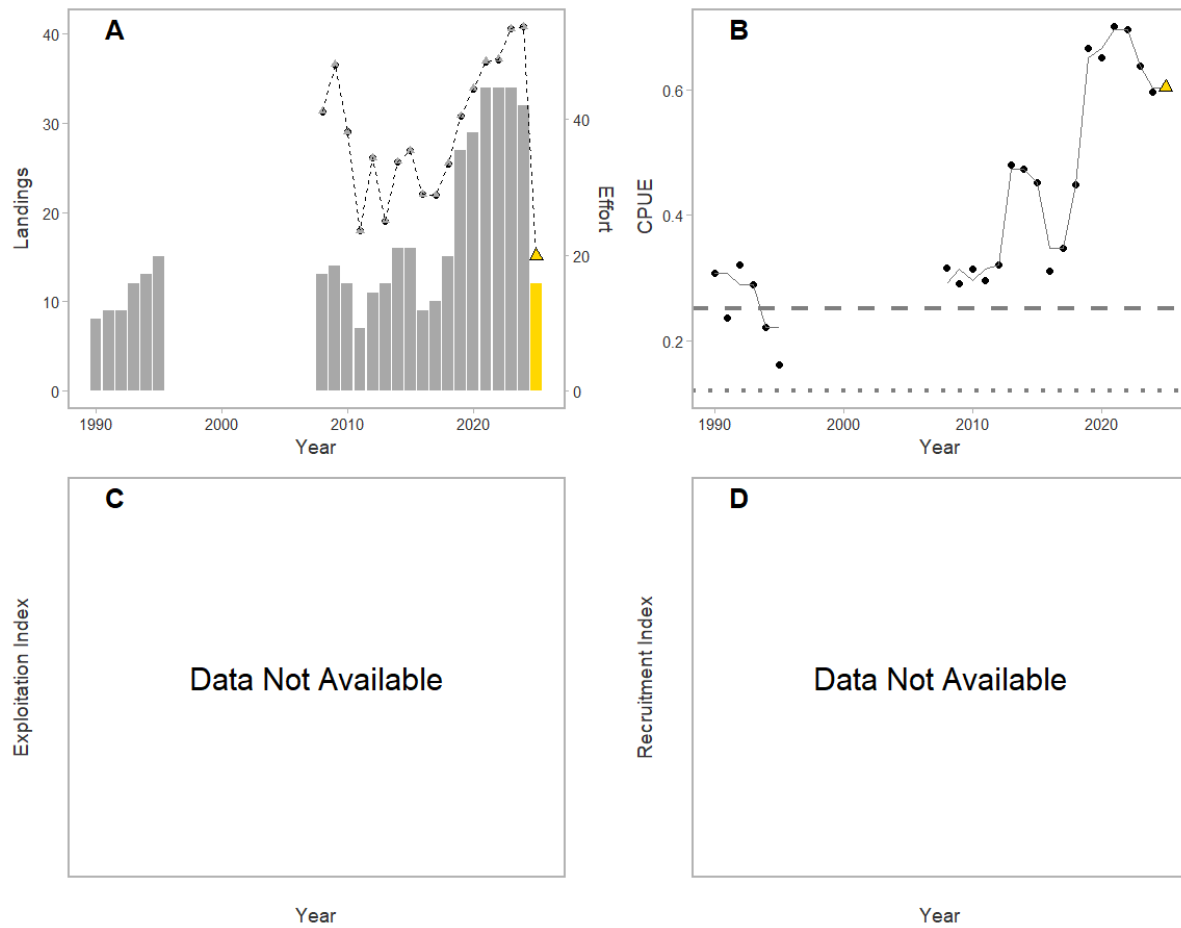


Figure 2. Lobster Fishing Area 28. (A) Time series of landings (tonnes; bars) and effort ('000s trap hauls; line), note incomplete 2025 landings and effort records (yellow); Data for 1996–2007 not shown for privacy considerations; (B) Commercial catch rates (catch per unit effort [CPUE]) in kilograms per trap haul (kg/th; black dots) in relation to the limit reference point (LRP, dotted) and upper stock reference (USR, dashed), note the yellow triangle denotes incomplete data for the 2025 fishing season; (C) Exploitation index, data not available (D) Recruitment index, data not available. In Panel B, the solid line represents the three-year running median.

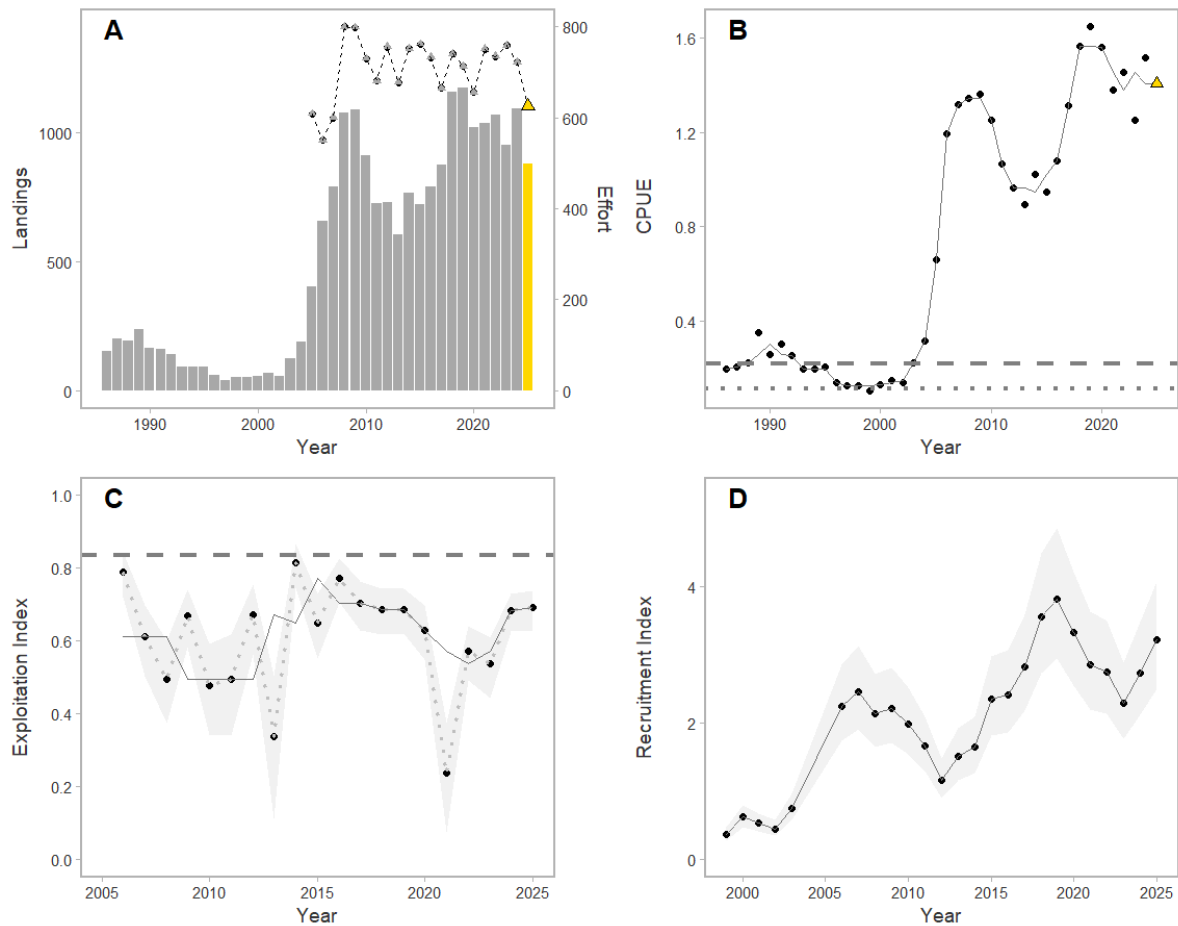


Figure 3. Lobster Fishing Area 29. (A) Time series of landings (tonnes; bars) and effort ('000s trap hauls; line), note incomplete 2025 landings and effort records (yellow); (B) Commercial catch rates (catch per unit effort [CPUE]) in kilograms per trap haul (kg/th; black dots) in relation to the limit reference point (LRP, dotted) and upper stock reference (USR, dashed), note the yellow triangle denotes incomplete data for the 2025 fishing season; (C) Time series of continuous change in ratio (CCIR)-method exploitation estimates (black dots) with 95% credible intervals (grey shading) and the removal reference (RR) (dashed grey line); (D) Time series of recruitment-trap catch rates in Lobsters per trap (black points), with 95% credible intervals (grey shading) from modelled sublegal-sized (greater than or equal to 70 mm to less than 84 mm) Lobsters. In Panels B and C, the solid lines represent three-year running medians.

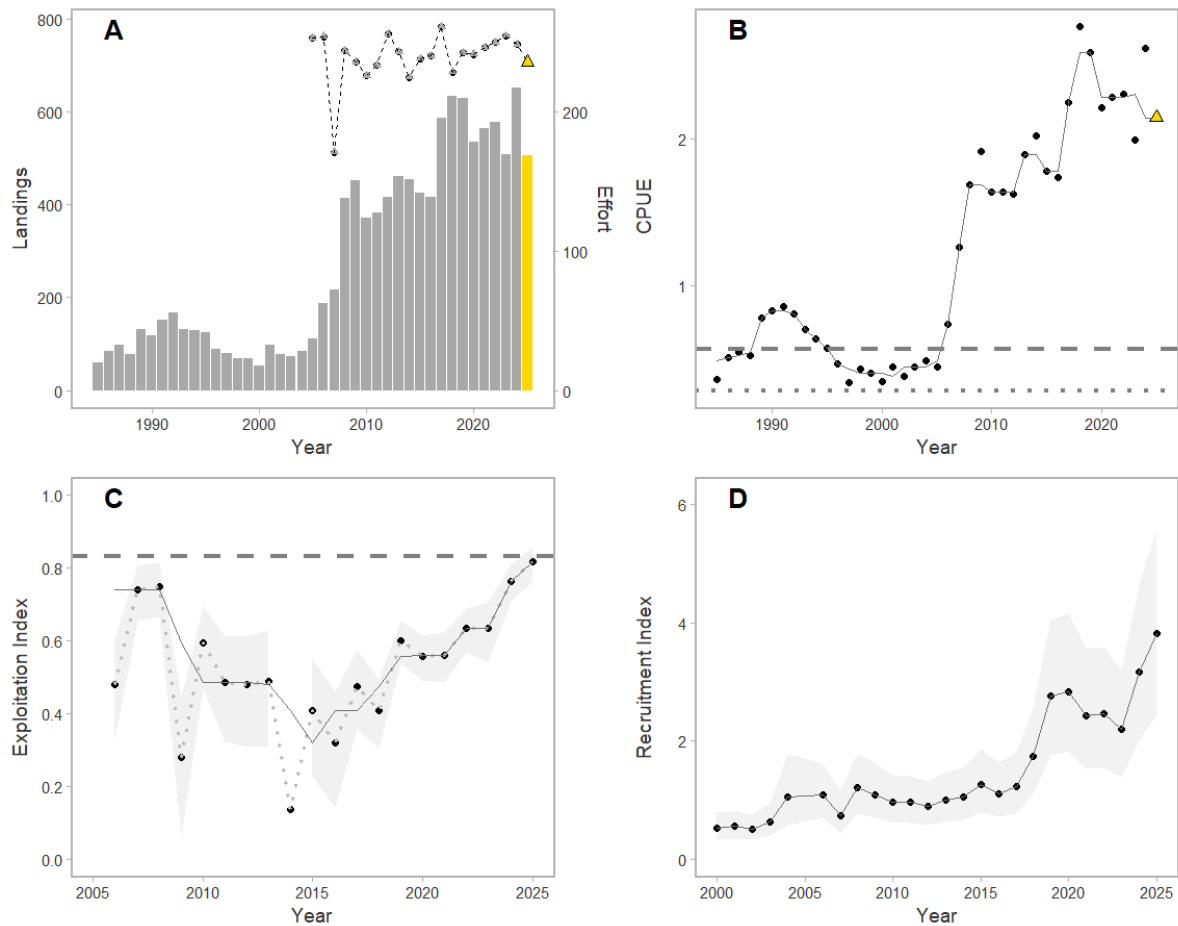


Figure 4. Lobster Fishing Area 30. (A) Time series of landings (tonnes; bars) and effort ('000s trap hauls; line), note incomplete 2025 landings and effort records (yellow); (B) Commercial catch rates (catch per unit effort [CPUE]) in kilograms per trap haul (kg/th; black dots) in relation to the limit reference point (LRP, dotted) and upper stock reference (USR, dashed), note the yellow triangle denotes incomplete data for the 2025 fishing season; (C) Time series of continuous change in ratio (CCIR)-method exploitation estimates (black dots) with 95% credible intervals (grey shading) and the removal reference (RR) (dashed grey line); (D) Time series of recruitment-trap catch rates in Lobsters per trap (black points), with 95% credible intervals (grey shading) from modelled sublegal-sized (greater than or equal to 70 mm to less than 82.5 mm) Lobsters. In Panels B and C, the solid lines represent three-year running medians.

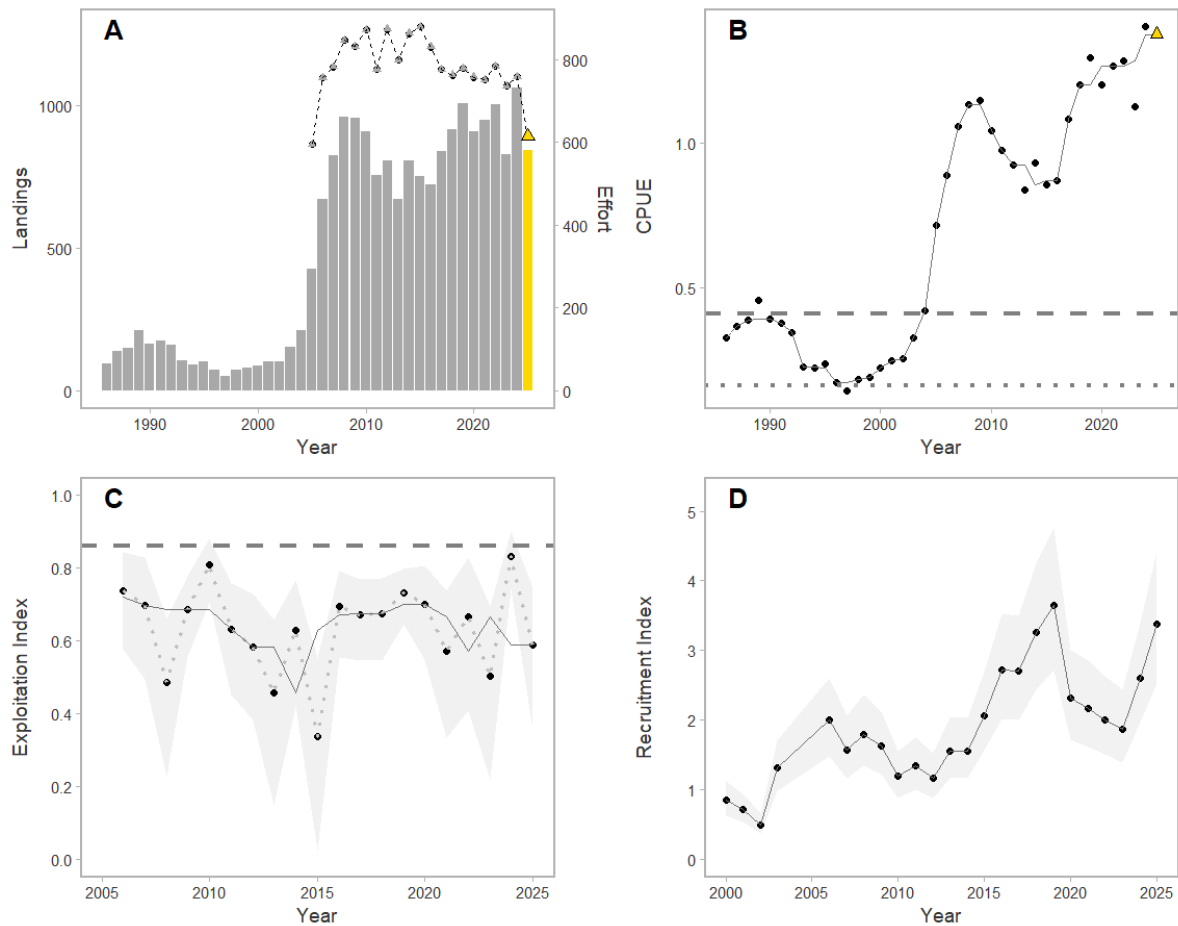


Figure 5. Lobster Fishing Area 31A. (A) Time series of landings (tonnes; bars) and effort ('000s trap hauls; line), note incomplete 2025 landings and effort records (yellow); (B) Commercial catch rates (catch per unit effort [CPUE]) in kilograms per trap haul (kg/th; black dots) in relation to the limit reference point (LRP, dotted) and Upper Stock Reference (USR, dashed), note the yellow triangle denotes incomplete data for the 2025 fishing season; (C) Time series of continuous change in ratio (CCIR)-method exploitation estimates (black dots) with 95% credible intervals (grey shading) and the removal reference (RR) (dashed grey line); (D) Time series of recruitment-trap catch rates in Lobsters per trap (black points), with 95% credible intervals (grey shading) from modelled sublegal-sized (greater than or equal to 70 mm to less than 82.5 mm) Lobsters. In Panels B and C, the solid lines represent three-year running medians.

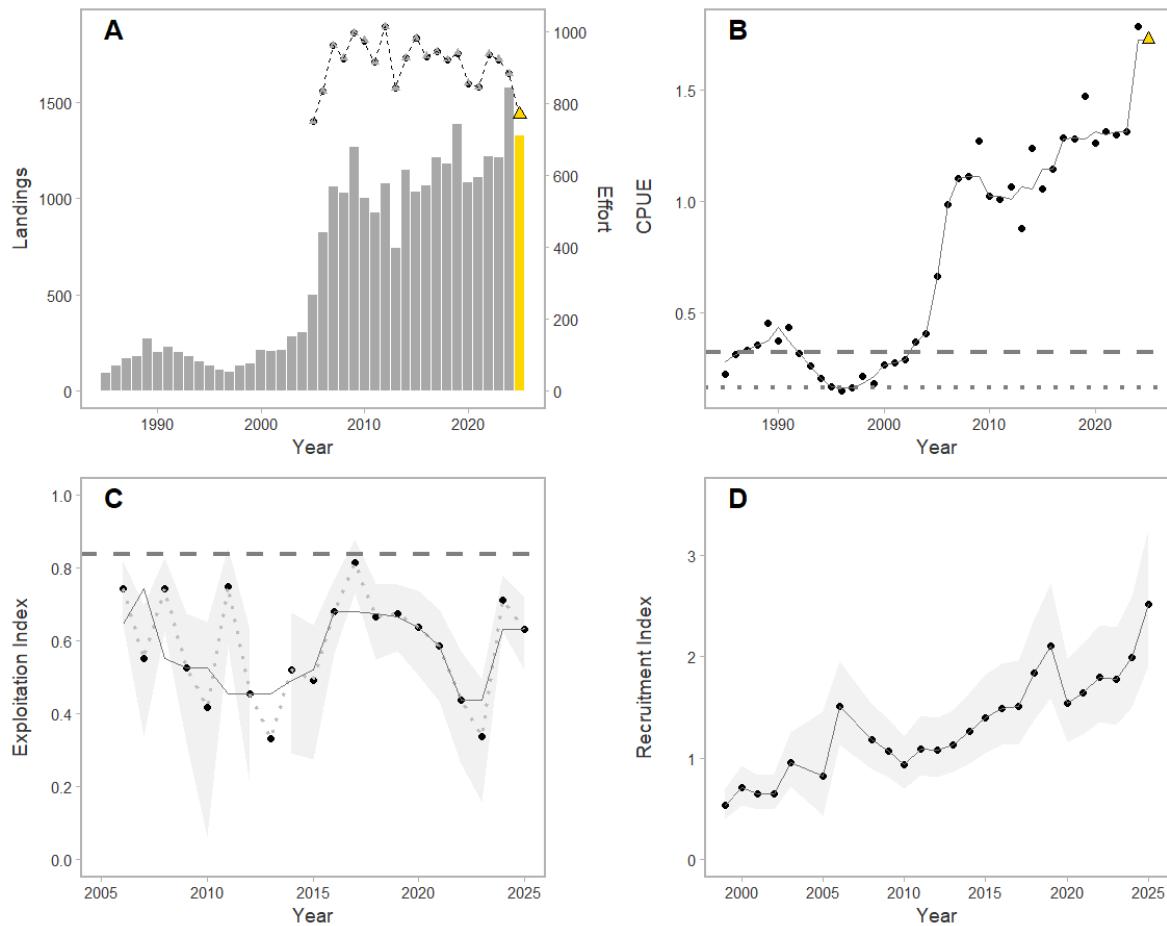


Figure 6. Lobster Fishing Area 31B. (A) Time series of landings (tonnes; bars) and effort ('000s trap hauls; line), note incomplete 2025 landings and effort records (yellow); (B) Commercial catch rates (catch per unit effort [CPUE]) in kilograms per trap haul (kg/th; black dots) in relation to the limit reference point (LRP, dotted) and upper stock reference (USR, dashed), note the yellow triangle denotes incomplete data for the 2025 fishing season; (C) Time series of continuous change in ratio (CCIR)-method exploitation estimates (black dots) with 95% credible intervals (grey shading) and the removal reference (RR) (dashed grey line); (D) Time series of recruitment-trap catch rates in Lobsters per trap (black points), with 95% credible intervals (grey shading) from modelled sublegal-sized (greater than or equal to 70 mm to less than 82.5 mm) Lobsters. In Panels B and C, the solid lines represent three-year running medians.

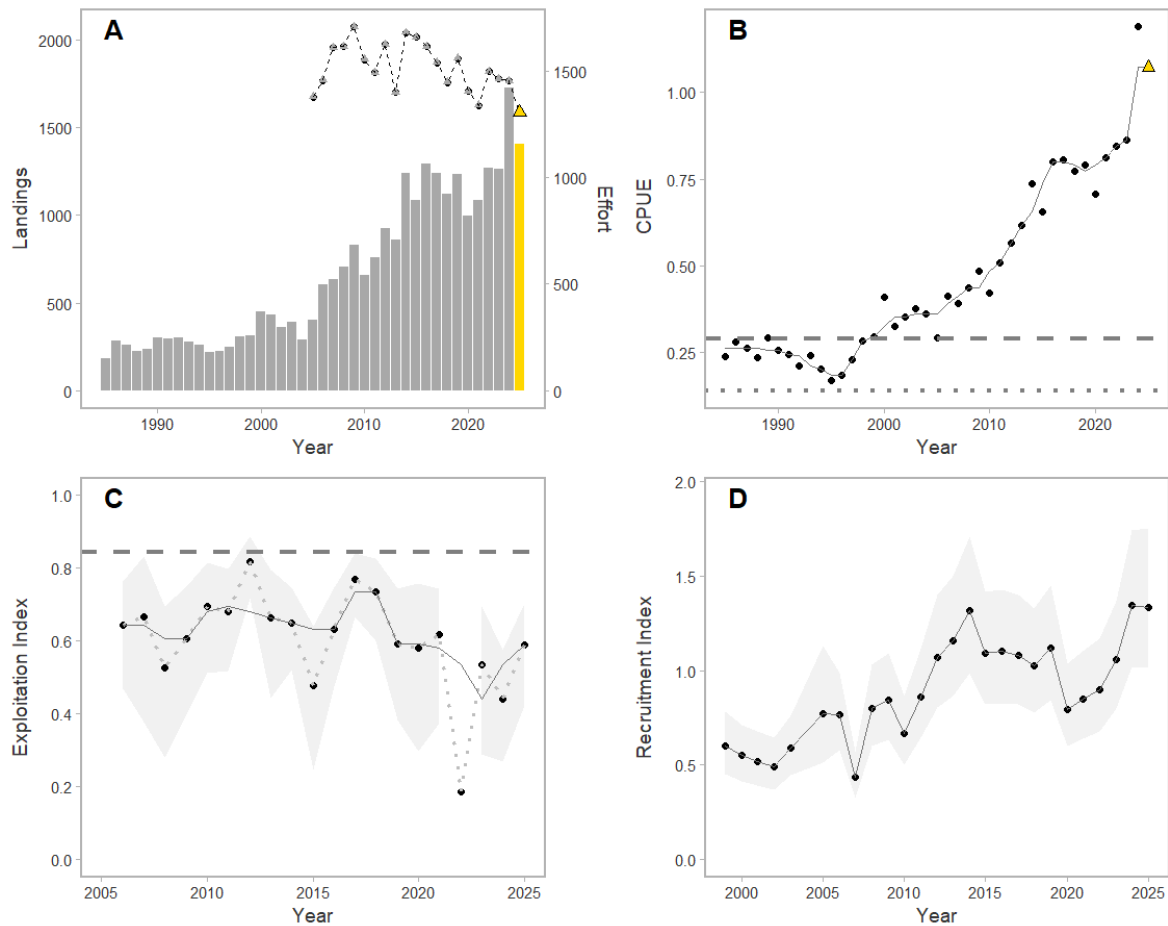


Figure 7. Lobster Fishing Area 32. (A) Time series of landings (tonnes; bars) and effort ('000s trap hauls; line), note incomplete 2025 landings and effort records (yellow); (B) Commercial catch rates (catch per unit effort [CPUE]) in kilograms per trap haul (kg/th; black dots) in relation to the limit reference point (LRP, dotted) and upper stock reference (USR, dashed), note the yellow triangle denotes incomplete data for the 2025 fishing season; (C) Time series of continuous change in ratio (CCIR)-method exploitation estimates (black dots) with 95% credible intervals (grey shading) and the removal reference (dashed grey line); (D) Time series of recruitment-trap catch rates in Lobsters per trap (black points), with 95% credible intervals (grey shading) from modelled sublegal-sized (greater than or equal to 70 mm to less than 82.5 mm) Lobsters. In Panels B and C, the solid lines represent three-year running medians.

Stock Status and Trends

Table 2. Preliminary values for primary indicators of productivity and exploitation for Lobster fishing areas (LFAs) 27–32 and three year running median value for comparison with established Precautionary Approach reference points. Catch per unit effort (CPUE) is reported in kilograms per trap haul (kg/th). N/A indicates not available

LFA	CPUE (kg/th)	CPUE Running Median	Limit Reference Point (LRP)	Upper Stock Reference (USR)	Exploitation Index	Exploitation Index Running Median	Removal Reference (RR)
27	1.14	1.14	0.14	0.27	0.87	0.87	0.89
28	0.60	0.60	0.12	0.25	NA	N/A ¹	N/A ¹
29	1.41	1.41	0.11	0.22	0.69	0.69	0.83
30	2.15	2.15	0.28	0.56	0.82	0.82	0.83
31A	1.38	1.38	0.16	0.31	0.59	0.59	0.86
31B	1.73	1.73	0.16	0.32	0.63	0.63	0.84
32	1.08	1.08	0.14	0.29	0.59	0.59	0.84

¹ Insufficient data to determine exploitation index and removal reference.

Primary Indicator of Productivity - Commercial Catch Rate

CPUE remains near historic highs in LFAs 27–32, relative to the post-1985 time series. All LFAs are above their respective USRs and considered to be in the healthy zone (Figures 1–7, Panels B; Table 2).

Primary Indicator of Exploitation - CCIR

The annual point estimate and three-year running median of the CCIR exploitation estimate are below the RR in LFAs 27–32 (Figures 1–7, Panels C; Table 2), except LFA 28 where no data are available to determine an exploitation index and RR. LFA 27 and LFA 30 are near the RR. These stocks are not considered to be overfished.

Secondary Indicator - Commercial Fishery Landings and Effort

Landings have closely mirrored catch rates, as effort levels have remained relatively stable across LFAs 27–32 for the past ten years, (Figures 1–7; Panels A). Based on catch rates, once all landings data has been received, 2025 landings are expected to be below 2024 levels in LFAs 30 and 32 and near 2024 levels in the other LFAs.

Secondary Indicator - Recruitment Trap Sub-Legal Catch Rates

R-1 Lobster (Figures 1 and 3–7, Panels D) in the recruitment trap project have increased in all LFAs in 2025 compared to 2024, other than LFA 32 which remains relatively unchanged. The recruitment indices in LFAs 27–32 have shown a general increasing trend over the past two decades.

Current Status

All LFAs are in the healthy zone, with their primary indicator of productivity above their USR. These range from 2.4 times the USR (LFA 28) to 6.4 times the USR (LFA 29).

History of Management

Management measures for this effort-controlled fishery have been stable for many years. Number of licenses, traps per license, length of season, and minimum legal size have not

changed. Landings and effort are shown in Figures 1–7 (Panels A) and described above. LFA 31A maintained its season length but shifted the start date to seven days earlier in 2025.

Ecosystem and Climate Change Considerations

The overall impact of ecosystem variables or changing ocean conditions on the LFA 27–32 Lobster stock productivity is unknown. Changes in ecosystem variables, such as water temperature and pH, can affect Lobster behaviour that in turn can affect catch rates, which is the primary indicator of productivity in LFAs 27–32. Ecosystem considerations were explored in the framework (Cook et al, 2018) but are not incorporated in the annual updates.

Stock Advice

The LFA 27–32 Lobster stocks are in the healthy zone; the current harvest strategy has maintained the stocks in the healthy zone, with exploitation being below the RR (there is no exploitation data available for LFA 28). The available data and assessment approach for LFAs 27–32 do not provide stock projections into the future.

SOURCES OF UNCERTAINTY

Reliance on fishery-dependent data for the assessment of Lobster stocks in LFAs 27–32 adds inherent uncertainty as Lobster behavior (such as catchability, movement, etc.) can affect results. Nonetheless, the use of consistent stock-status indicators annually creates an informative index of stock health and fishery performance. At the time of drafting this stock update, some commercial fishing logs had not yet been received by DFO Science. Though very unlikely to change significantly, the primary indicator of productivity (and associated stock status), landings, fishing effort levels, and CPUE cannot be considered as final.

In 2025, commercial harvesters in LFAs 28, 29, and 30 transitioned from paper logbooks to mandatory eLogs for reporting daily catch, effort, and fishing location. Despite this transition, landings continued to be documented through a newly updated paper reporting process. Difficulties associated with using the new eLogs platform, coupled with a lack of clarity regarding proper submission of paper landing records, introduced additional uncertainty into the 2025 data set. As a result, records from these LFAs may not be directly comparable to those from previous years.

In recent years, closures of traditional bait source fisheries (Atlantic Mackerel and Atlantic Herring, as examples) have led some harvesters to change bait types in their Lobster traps. Catch rates could be affected for harvesters changing baits from those traditionally used. It is unknown whether associated changes in catch rate would be positive or negative.

To better understand the effects of removals on the Lobster population, DFO Science requires standardized and timely reporting for all landings, including both commercial and rights-based access (Food Social and Ceremonial and Moderate Livelihood). Reporting of rights-based landings continues to improve and is expected to increasingly inform stock assessments in conjunction with commercial removals.

Illegal and unreported fishing activity represents further removals from Lobster stocks. The impact of these removals currently cannot be accounted for in science advice, leading to increased uncertainty in stock status.

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SOURCES OF INFORMATION

Cook, A.M., Hubley, P.B., Denton, C., and Howse, V. 2020. [2018 Framework Assessment of American Lobster \(*Homarus americanus*\) in LFA 27–33](#). DFO Can. Sci. Advis. Sec. Res. Doc. 2020/017. vi + 251 p.

DFO. 2020. [Assessment of American Lobster \(*Homarus americanus*\) in Lobster Fishing Areas 27–32](#). DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2020/026.

DFO. 2023. [Stock Status of American Lobster \(*Homarus americanus*\) in Lobster Fishing Areas 27–32 for 2022](#). DFO Can. Sci. Advis. Sec. Sci. Resp. 2023/014.

APPENDIX

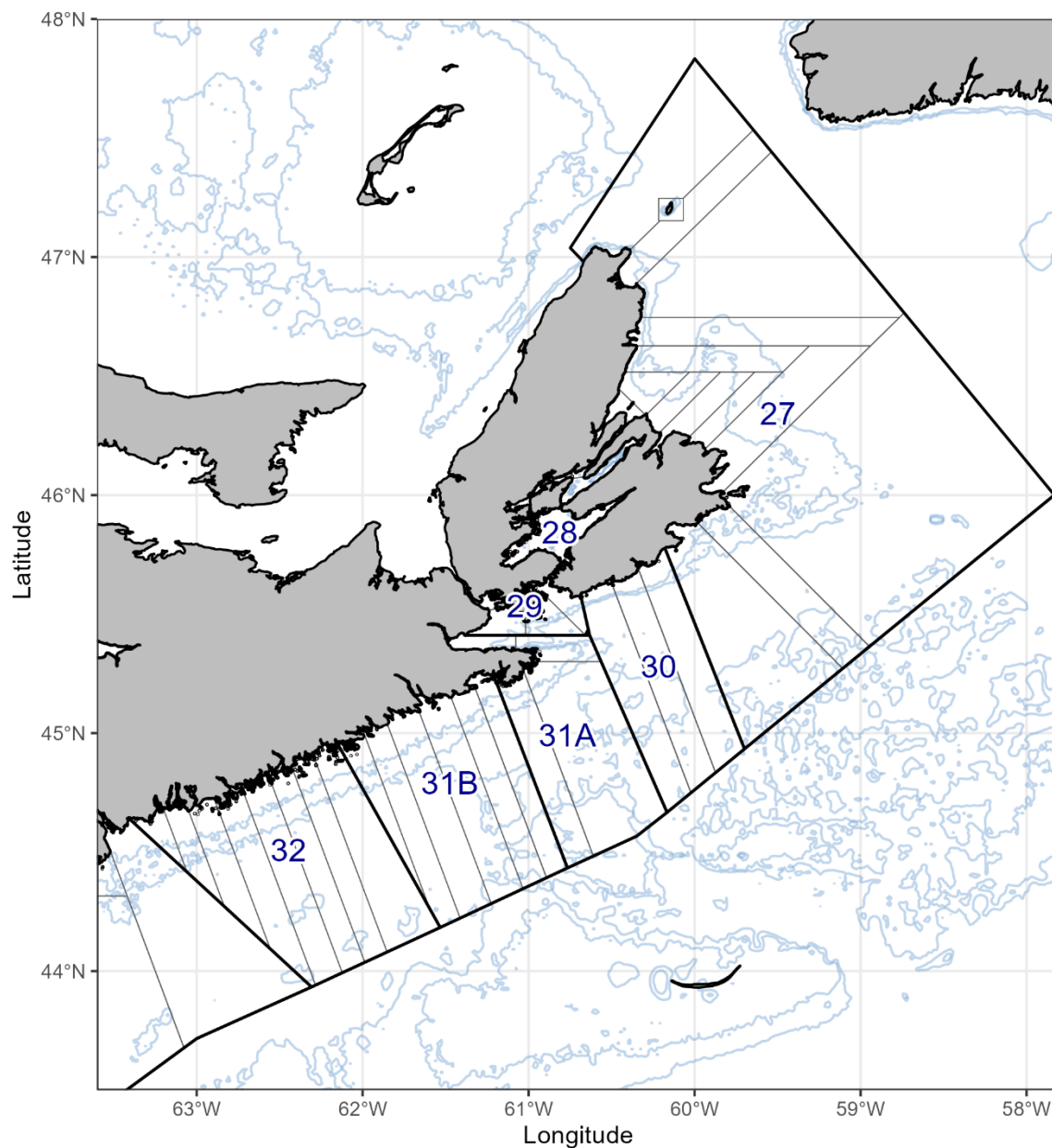


Figure A1. Map of Lobster Fishing Areas (LFAs) 27–32 located on the Atlantic coast of eastern Nova Scotia. Grey lines within each LFA demarcate logbook reporting grids.

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ISSN 1919-3769

ISBN 978-0-662-31220-8 Cat. No. Fs70-7/2026-023E-PDF

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Correct Citation for this Publication:

DFO. 2026. Stock Status Update for American Lobster (*Homarus americanus*) in Lobster
Fishing Areas 27–32. DFO Can. Sci. Advis. Sec. Sci. Resp. 2026/023.

Aussi disponible en français :

*MPO. 2026. Mise à jour sur l'état des stocks de homard d'Amérique (Homarus americanus)
dans les zones de pêche du homard 27 à 32. Secr. can. des avis sci. du MPO. Rép. des
Sci. 2026/023.*