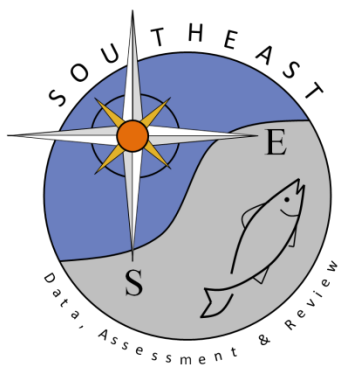


PR/DNER/Commercial Fisheries Statistics Program Report
Signs of the Abundance of Spiny Lobster *Panulirus argus* Observed by
Commercial Landings Reported during 2014-2023

Daniel Matos-Caraballo, Jesús León-Fernández, Luis A. Rivera-Padilla,
and Wilson Santiago-Soler

SEDAR91-DW-03

15 November 2024



This information is distributed solely for the purpose of pre-dissemination peer review. It does not represent and should not be construed to represent any agency determination or policy.

Please cite this document as:

Matos-Caraballo, Daniel, Jesús León-Fernández, Luis A. Rivera-Padilla, and Wilson Santiago-Soler. 2024. PR/DNER/Commercial Fisheries Statistics Program Report: Signs of the Abundance of Spiny Lobster *Panulirus argus* Observed by Commercial Landings Reported during 2014-2023. SEDAR91-DW-03. SEDAR, North Charleston, SC. 6 pp.

PR/DNER/Commercial Fisheries Statistics Program Report

***Signs of the Abundance of Spiny Lobster *Panulirus argus* Observed by Commercial Landings
Reported during 2014-2023***

November 12th, 2024

***By Daniel Matos-Caraballo, P.I. CFSP
Jesús León-Fernández, CFSP Port Sampler
Luis A. Rivera-Padilla, CFSP Port Sampler
Wilson Santiago-Soler, CFSP Port Sampler***

***Report to SEDAR 91 November 14, 2024
St. Thomas USVI***

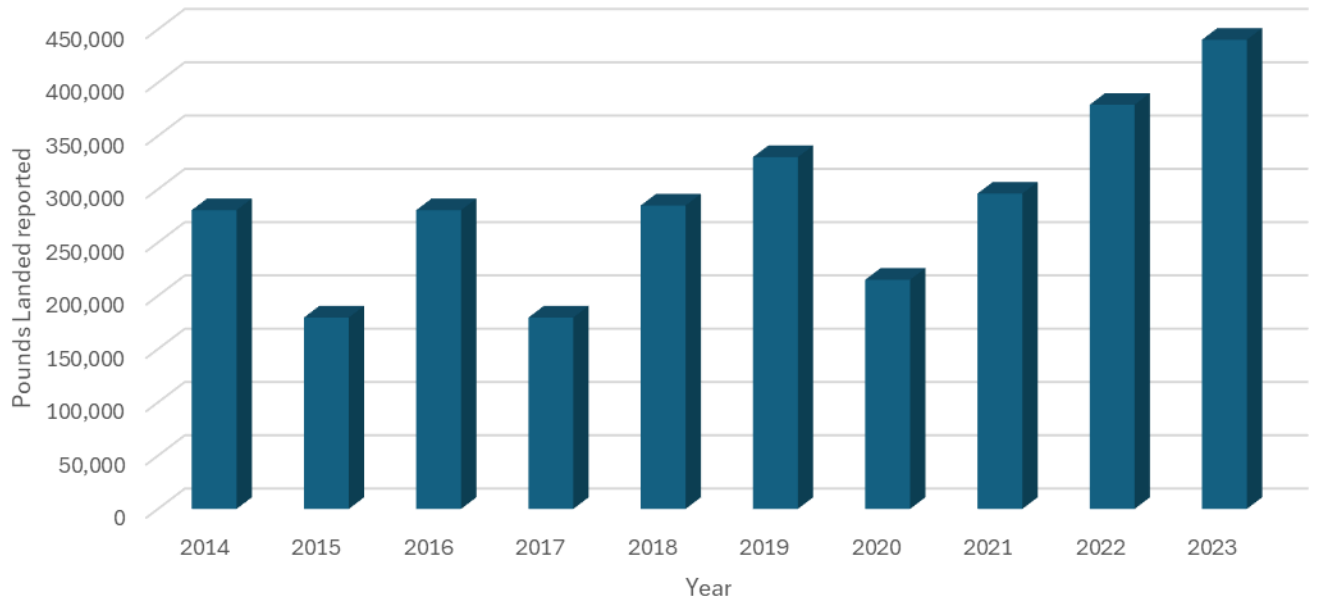
The PR/DNER/Commercial Fisheries Statistics Program (CFSP) have been collecting commercial landings reports in Puerto Rico since 1969. Jesús León-Fernández and Luis Aníbal Rivera-Padilla have been collecting landings, biostatistical and other sources of commercial fishery data for the CFSP during more than 40 years. Daniel Matos-Caraballo has been the CFSP's Principal Investigator and also worked as a port sampler for the last 36 years. Wilson Santiago-Soler, has been a port sampler for the last 10 years. The four people mentioned were observing the data collected and the market for Spiny Lobster and helped to work on this report.

CFSP raw data shows that the landings of Spiny Lobster have been increased from 250K pounds to 440 K pounds during 2016-2023 (Table 1 and Figure 1).

Table 1. Data Reported by Commercial Fishers (No Correction Factor Included) for Landings, Trips, Average CPUE, Active Commercial Fishers and Average Catch per year Durin 2014-23.

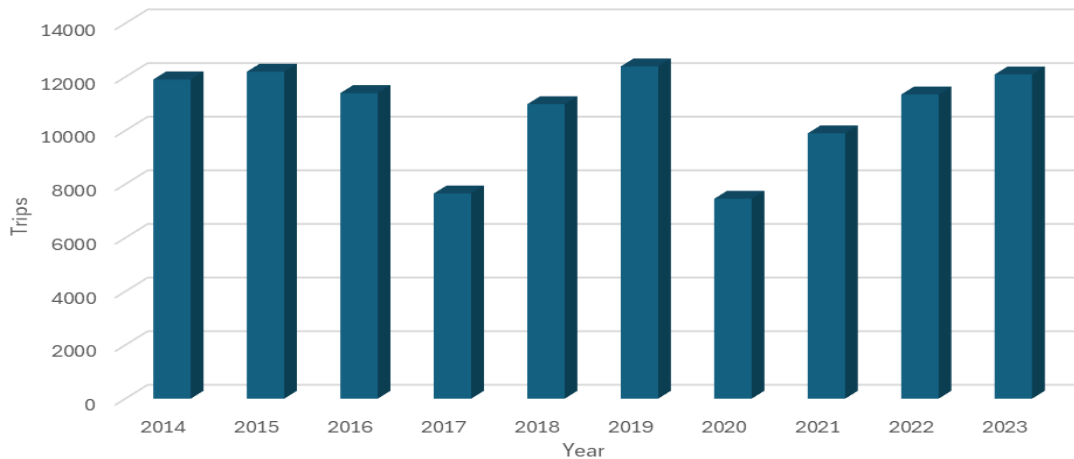
	Year	Trips	Total Pounds	Avg CPUE (landings/Trip	# of Active Commercial Fishers	Avg Catch per fisher/Year
	2014	11909	252230	21.18	390	646.74
	2015	12198	276150	22.64	396	697.35
	2016	11,399	280,300	24.59	366	765.85
	2017	7,656	179,561	23.45	384	467.61
	2018	10,984	284,699	25.92	368	773.64
	2019	12,394	330,078	26.63	405	815.01
	2020	7,458	215,020	28.83	487	441.52
	2021	9,898	295,873	29.89	500	591.75
	2022	11,347	379,234	33.42	571	664.16
	2023	12,094	440,238	36.40	535	822.87

Figure 1. Total Pounds Reported of Spiny Lobster by Commercial Fishers in Puerto Rico During 2014-23 (No Corection Factor Included)

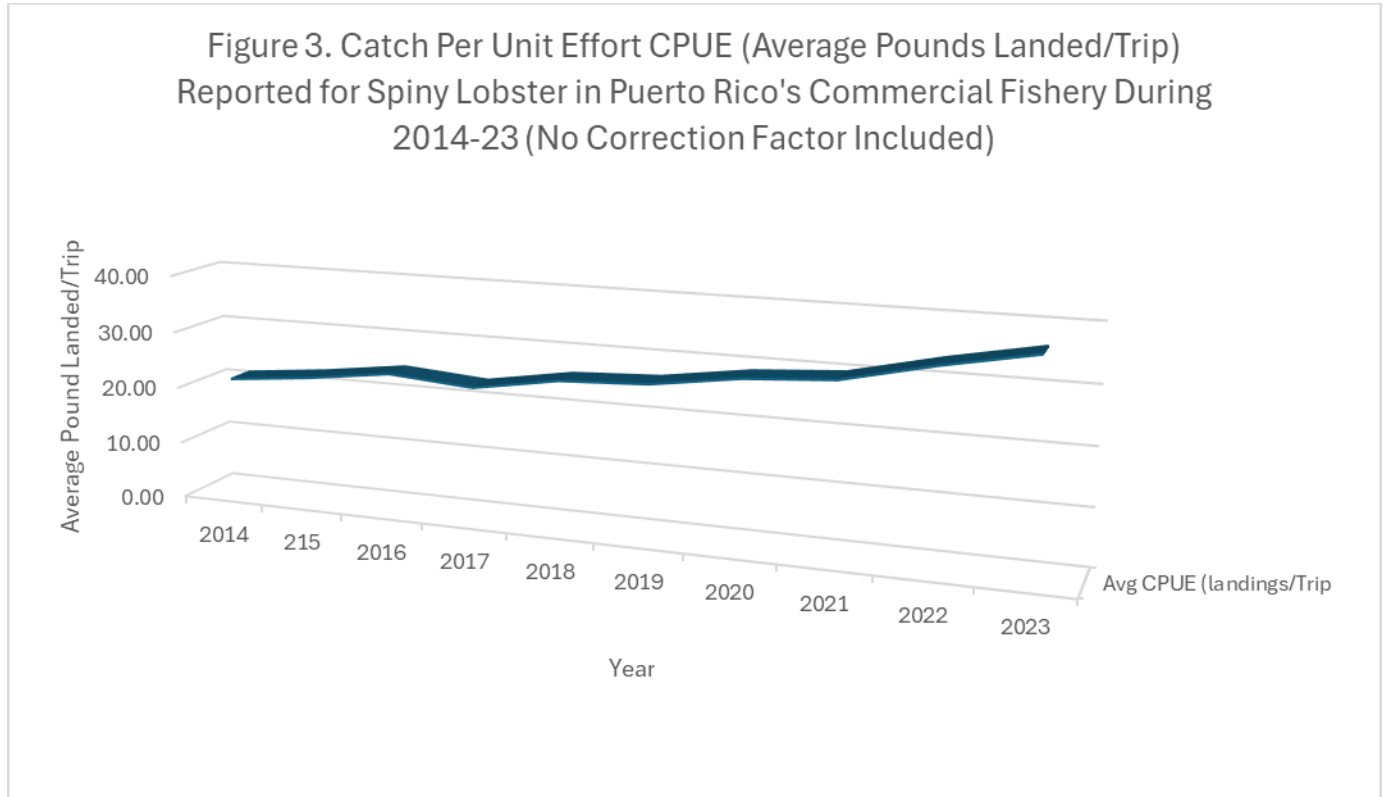


The number of trips reported was very similar, from 10K to 12K for most of the years 2014 to 2023 (Table 1 and Figure 2).

Figure 2. Total Trips Reported by Commercial Fishers in Puerto Rico for Spiny Lobster by Year During 2014-2023 (No Correction Factor Included)



The Average Catch Per Unit Effort (CPUE) measured by Pounds Landed/Trip, was observed to increase gradually from 21 ponds/trip in 2014 to 36 pounds/trip in 2023 (Table 1 and Figure 3). This was an increase of approximately 58% in 10 years.



The fact that the number of fishers increased from 390 in 2014 to 535 in 2023 (Table 1 and Figure 4) supports the abundance of the resource because the CPUE increased for the same period. Also, the average catch/year/fisher increased gradually from 646 to 822 pounds/fisher/year (Table 1 and Figure 5).

Figure 4. Number of Active Commercial Fishers That Reported to Catch Spiny Lobster in Puerto Rico During 2014-23

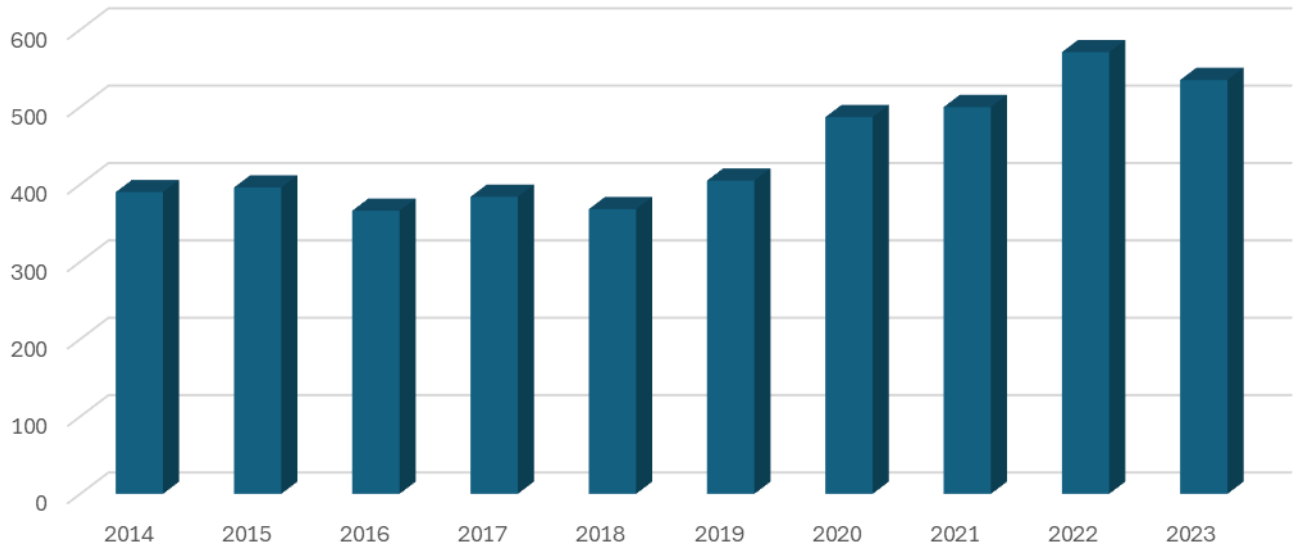
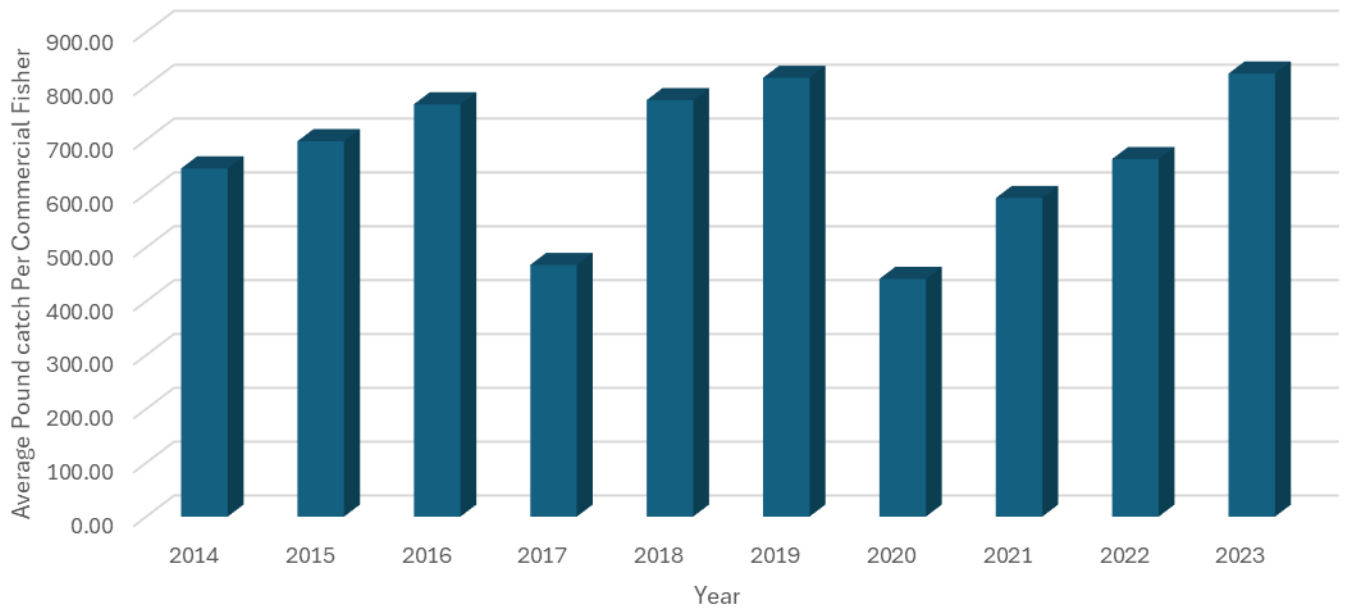


Figure 5. Average Catch in Pounds per Fiisher per Year Reported in Puerto Rico's Commercial Fisheries During 2014-2023 (No Correction Factor Included)



***Marketing signs of abundance:
Historical events that affected the commercial fisheries landings reported in Puerto Rico
during 2017-23.***

CFSP's personnel observed during 2017-2024, that the most important fish houses that bought fish and shellfish daily limited their purchases of Spiny Lobsters to Wednesday – Saturday during two or three periods during a year. We observed that many restaurants and fish houses were closed because of this economic situation. Also, the fish houses imposed a maximum quota of 20 pounds per trip for lobster for two reasons: first, the Spiny Lobsters have excellent recruitment and abundant population, second, the economic recession caused a small decrease in restaurant sales activity. During 2023 the period of marketing limited quota increased for three months (October to December). Same event occurred during October to November 2024 and very probably will continue during December.

Daniel Matos-Caraballo visited three of the most successful restaurants in Puerto Rico's Southwest Coast. The three managers mentioned to me that they sales the same quantity of lobsters, the demand is not reduced. Only during September because they reduced the lobsters purchases of the hurricane season pick and a decrease in tourism for this month. On the other hand, fish houses has various hundreds of pounds of freezing Spiny Lobster. Also, fish houses boiled the lobsters to sale this way.

The cost of the Spiny Lobster decreased from \$12/pound in 2020 to \$7/pound. Some fishers reported to CFSP last week that they reduced the price to \$6/pound.

A new Spiny Lobster market has been born in Puerto Rico:

Boiled Lobster Meat Tails \$35/pound

Boiled Lobster Meat from Head and Legs \$25/pound

Fish Houses started to produce and sales Lobsters Turnovers (empanadillas) from \$25-\$35/Dozen.

One more testimony: I personally interviewed 30 years of experienced ornamental fisher who diving three or more days per week. I asked him if he believes that Spiny Lobster is overfished. He answers: "I do not think so. I do not catch lobsters because my business of ornamental fishes, but they are abundant. If my wife, ask me to catch Spiny Lobster I easily catch three or four just for our consumption."

The CFSP's port samplers are convinced that the Spiny Lobsters are catch in a good size and the market required mostly 1.5 – 2.0 pounds/individual.

The TIP Frequency Distribution for Spiny Lobster average carapace length from 1983-2023 shows a gradual increase. In 190 the average carapace length was 3.5 inches and gradually increased in 2023 to 4.0 inches (Katherine Godwin, et.al. 2024, SEDAR 91 Report. Trip Interview Program (TIP) Size Composition Analysis of Caribbean Spiny Lobster in St. Croix, U.S. Caribbean, 1981-

2023).

In conclusion the landings reported, the CPUE, increase in carapace length the market behavior observed by CFSP personnel are signs of the abundance of the Spiny Lobster fishery resources.