

Inventory of the lobster camp fishery at Turneffe Atoll Marine Reserve: fishing camps, fishing grounds & fishing gears (traps and shades).

Inventario de la pesquería de campamentos de langosta en la Reserva Marina Turneffe Atoll: campamentos de pesca, zonas de pesca y artes de pesca (trampas y sombras).

Inventaire de la pêche des camps de pêche à la langouste dans la réserve marine de l'atoll de Turneffe : camps de pêche, lieux de pêche et engins de pêche (casiers et ombrages).

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EXTENDED ABSTRACT

The Caribbean Spiny Lobster (*Panulirus argus*) fishery is of major economic importance in Belize, with the Turneffe Atoll Marine Reserve (TAMR) serving as a vital fishing area that significantly contributes to the country's total lobster catch. TAMR sustains a substantial fishing community, comprising over 700 commercially licensed fishers, with approximately 250 classified as customary users. TAMR fishers utilize a diverse range of fishing vessels and techniques, reflecting the multifaceted nature of the fishery. Specifically, sailboat fishers hailing from northern villages predominantly engage in free diving practices using hook sticks to catch lobster (Wildtracks, 2022). In contrast, traditional lobster camp fishers within the reserve strategically deploy lobster traps and/or shades in designated fishing grounds to optimize catch efficiency. The intricate interplay of fishing methods employed by TAMR fishers underscores the complexity of the marine reserve's fishing dynamics. The Turneffe Atoll Sustainability Association (TASA), co-manager of TAMR, conducted a study to establish a baseline understanding of the lobster camp fishery. It focused on fishers who set lobster traps and/or shades in traditional fishing grounds, by gentlemen's agreement, near owned or leased fishing camps.

Thirty camp fishers were interviewed to gather insights into their fishing practices, including the quantification and characterization of lobster traps and shades. Fishing camps and fishing grounds were mapped utilizing the Spatial Monitoring and Reporting Tool (SMART) and ArcGIS. Furthermore, to enhance traceability and internal monitoring, a subset of lobster traps was tagged and internally registered.

Thirty-one active fishing camps, consistent with the previous inventory report from 2020 were documented and mapped (V. Burns Perez, unpublished data). Additionally, forty-five fishing grounds, encompassing an area of 225 sq. km on the lagoon floor were mapped. The study documented a total of 8,199 lobster traps owned by 15 fishers, with 7,399 traps actively deployed. Compared to the previous year, there has been a 13% increase in the number of owned traps and a 7.5% increase in deployed traps. The majority of the documented lobster traps were constructed using Santa Maria hardwood frames and saltwater palmetto strips. Furthermore, the study identified 6,065 lobster shades owned by 22 fishers, 6,045 shades were deployed. The ownership and deployment of lobster shades have increased by 10% and 15%, respectively. Shades were primarily constructed using saltwater palmetto frames, zinc covers, and recycled car or appliance parts. Approximately 50% (4,117) of the lobster traps have been tagged and registered. However, due to logistical challenges associated with their deployment, the tagging process for lobster shades was not conducted. The study encountered obstacles such as delays in trap deployment at the start of the lobster season due to financial constraints and scarcity of savannah palmetto. Difficulties in reaching fishers and obtaining their permission for trap tagging also posed challenges.

This study provides a baseline assessment of the lobster camp fishery within TAMR, offering invaluable insights into the fishing practices and infrastructure in the area. To improve data collection and monitoring efforts, it is recommended to secure permission from TAMR fishers through pre-season meetings. The ongoing efforts of TASA in mapping fishing grounds and tagging lobster traps should continue, addressing the encountered challenges. This baseline information will support informed management decisions by TASA and the Belize Fisheries Department, the co-managers of TAMR, thereby contributing to the sustainability of the lobster fishery and the overall conservation of the marine reserve. Future studies can build upon this baseline to assess the ecological impact and socio-economic dynamics of the lobster camp fishery in TAMR, facilitating effective management strategies.

KEYWORDS: Lobster, management, Belize, fisheries, fishing ground

LITERATURE CITED.

Wildtracks. 2022. Management Plan Turneffe Atoll Marine Reserve 2023 – 2027