

Fisheries Statistical Bulletin 2007

A brief overview of Fisheries Statistics
of the Emirate of Abu Dhabi



الهيئة العامة للبيئة - أبوظبي
Environment Agency - ABU DHABI

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Summary

This bulletin gives an overview of the landings, fishing effort, wholesale value and species composition of the principal commercial species groups in 2007 as part of the fisheries statistical data collection project which was initiated in 2001.

In 2007, a total catch of 5,337 tonnes was caught by more than 27,380 lanch and tarad fishing trips. The major landing sites were Free Port (2,871 tonnes), Delma Island (907 tonnes) and Al Marfa with 481 tonnes, respectively. Gargoor (fish traps) were the dominant gear type, accounting for 3,029 tonnes, followed by Hadaq (1,728 tonnes) and Halaq (205 tonnes).

The total wholesale value of fish landed in the Emirate of Abu Dhabi was 63.2 million AED in 2007. Hamour (*Epinephelus coioides*) accounted for the highest value at 24.2 million AED, followed by Shaari (Lethrinidae) 12.2 million AED and Jesh (Carangidae) 9.0 million AED.



Figure 1 – Fresh marine products for sale at the Free Port fish market

Introduction



Figure 2 – Landing of undersized juvenile fish constitutes a major threat to the stocks' reproduction capacity, and hence towards overfishing

The collection of information on the status of the fish stocks through an elaborate fisheries statistical program is a key task of the Environment Agency – Abu Dhabi. In this regard a fishery statistical data collection program is designed to fulfill the following objectives:

- Development and implementation of a system for receiving, processing, storing, retrieving, analyzing, and reporting fisheries statistical data.
- Maintaining and updating records of fishery statistics.
- Preparation of periodic and annual statistical reports and reporting on the data and results.



Figure 3 – Data entry by Database Operator



Figure 4 – Fish monger in Al Marfa

Under this program, a wide range of fisheries data including fish landings, fishing effort, species composition and value of landings are documented. Information on the fisheries is collected in close cooperation with the Ministry of Environment and Water and other key stake holders,

such as The Coast Guard, Fishermen's Cooperative Society and Fish mongers based upon special arrangements.

This statistical bulletin presents the fisheries statistics of the Emirate of Abu Dhabi for 2007, and is follow-up on previous statistical bulletins.



Figure 5 – Fisheries Statistical Bulletin of 2006

Description of the fishery

Fisheries in the Emirate of Abu Dhabi are artisanal with the fleet constituting of small-sized boats operating traditional fishing gears. There are two types of fishing vessels namely; tarads and lanshes.

Tarads are open fiberglass dories measuring 6-8 meters in length which are equipped with one to two outboard engines. The duration of a fishing trip is usually 6-8 hours with a maximum trip length of one day. The number of crew varies from 1-4 persons.



Figure 6 – Tarads ready for operation

Lanshes are traditionally built wooden dhows ranging from 12 – 22 meters in length. They are decked and equipped with inboard diesel engines. Fish is stored whole on ice in insulated cool boxes. Fishing trips usually last between 3 and 5 days. The number of crew varies from 4-6 persons.



Figure 7 – Lansh returning to Abu Dhabi from a fishing trip

The maximum number of fishing boats licensed to operate in Abu Dhabi's waters was maintained at 1100 vessels during 2007 (only existing fishing vessels may apply for license renewal). In 2007, 773 tarads and 339 lanshes were licensed. Licensed boats from other Emirates also operate in Abu Dhabi waters.

Whilst there are a wide variety of methods, the main fishing gear type used to target demersal species is the Gargoor which is a dome shaped wire trap. Gargoor is licensed to fishermen on lansh vessels only, with a maximum of 125 gargoor per vessel. Hadaq (hand line) is usually operated in combination with the Gargoor fishing method.



Figure 8 – Gargoor with the entrance funnel (front) and escape panel (back)

Other demersal fishing methods such as Al Sakkar (inter-tidal barrier net), Al Hadhra (inter-tidal enclosure trap) and Al Defara (encircling net) are mainly operated by tarad fishermen as these gears are confined to shallower waters. Al Halaq (encircling net) is the most important gear type used by tarads to target pelagic species. Al Yarroof (beach seine) and Al Salieya (cast net) are mainly operated by foot fishermen.



Figure 9 – Al Hadhra fishing in operation

Over 100 species from more than 35 families are caught by the gears operated in the different fisheries in the Emirate of Abu Dhabi. The most important families making up the catch are Groupers Serranidae (Hamour), Emperors Lethrinidae (Shaari), Snappers Lutjanidae (Naiser), Sweetlips Haemulidae (Farsh), Seabreams Sparidae (Kofar), Jacks Carangidae (Jesh) and Mackerels Scombridae (Kanaad).



Figure 10 – The arrangement of fish, prior to every day's auction, in the early morning hours at Free Port

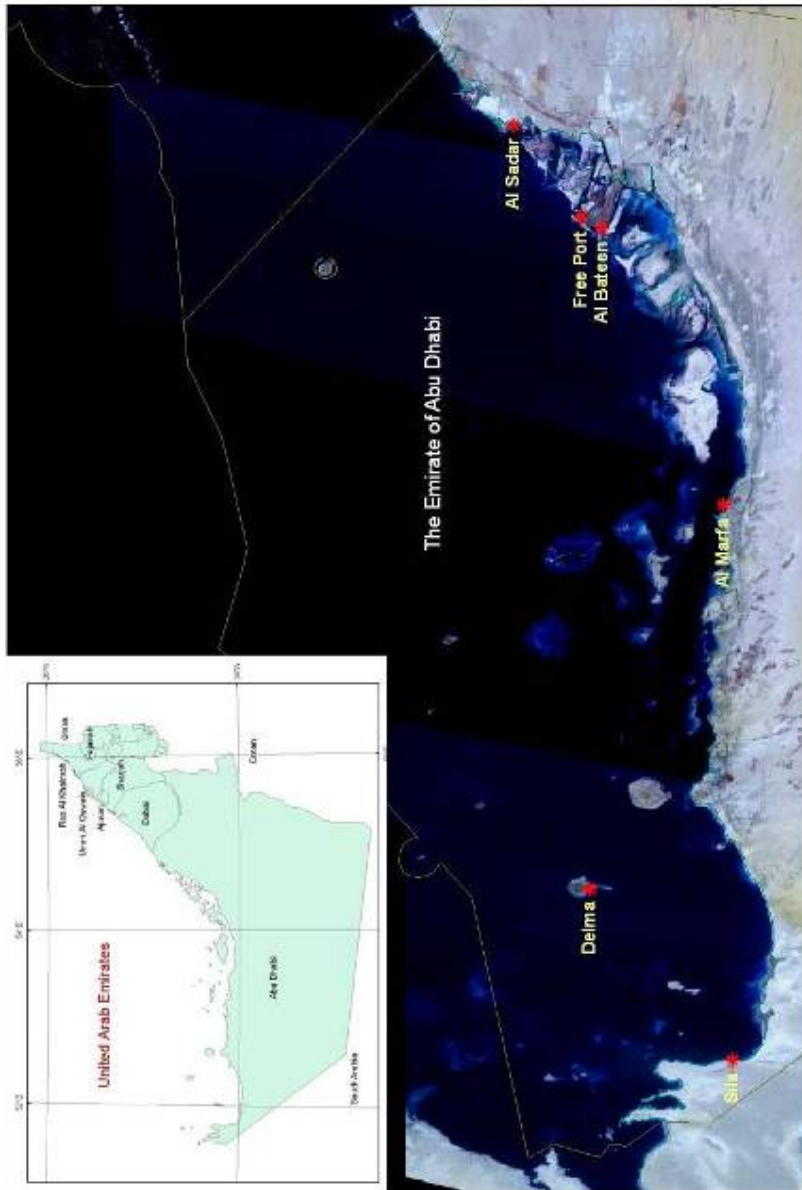


Figure 11 – Commercial fish landing sites in the Emirate of Abu Dhabi

Catch, effort, species composition and value of landings

The total catch landed in the Emirate of Abu Dhabi was 5,337 tonnes in 2007, of which 56% was realized by lanshes and 44% by tarads.

Figure 12 depicts total catch by landing site and boat type in 2007. Almost all of the landings by lanshes were made at the Free Port in Abu Dhabi and on Delma Island (98%). Landings by tarad, on the other hand, were more spread out and occurred at all landing sites in the Emirate of Abu Dhabi, with the highest volume recorded in Free Port.

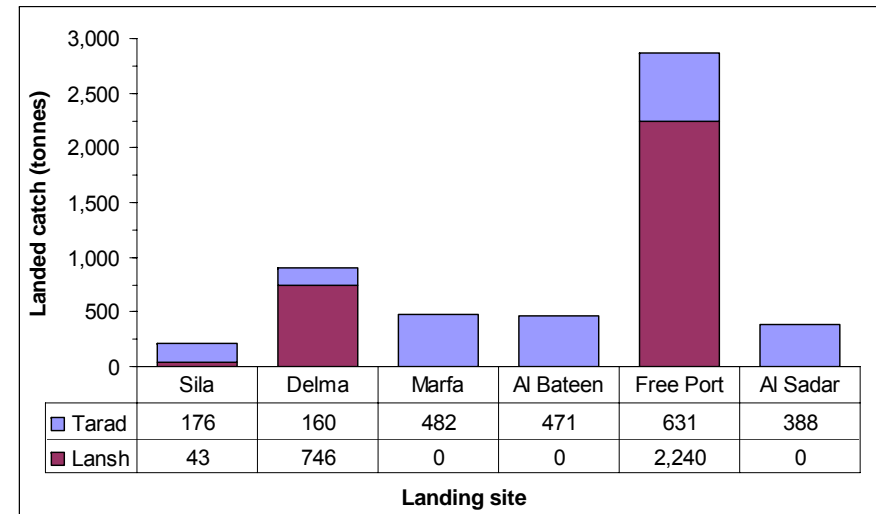


Figure 12 – Total catch by landing site and boat type in 2007

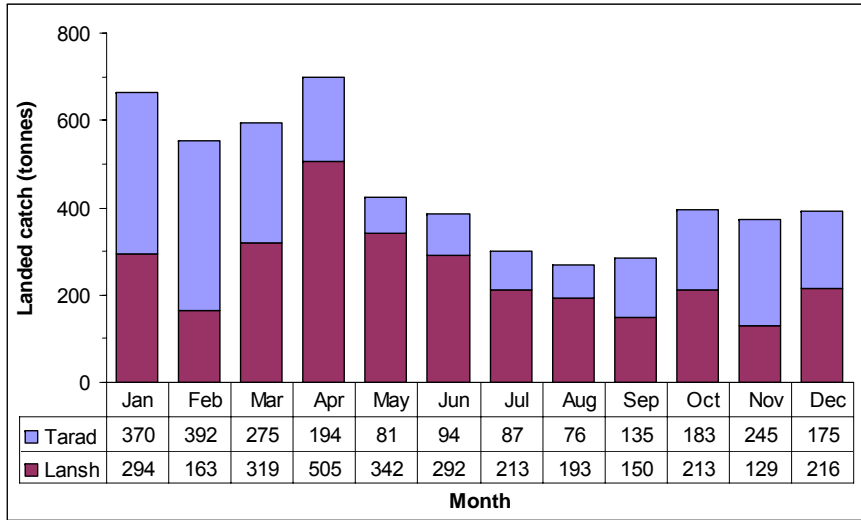


Figure 13 – Total catch by month and boat type in 2007

Figure 13 summarizes the total catch by month and boat type in 2007. A small dip in fish catches by lanshes is observable during the months of February – March which coincides with the occurrence of strong monsoon winds (shamal). Another clear drop in the landings occurred during the hot summer months June – September, when fish is known to move away to more deeper and cooler waters, where fishing grounds are less accessible to Abu Dhabi fishermen.

The relative high catches by tarad fishing boats in January and February is directly correlated to the fishing season for Kanaad (*Scomberomorus commerson*).

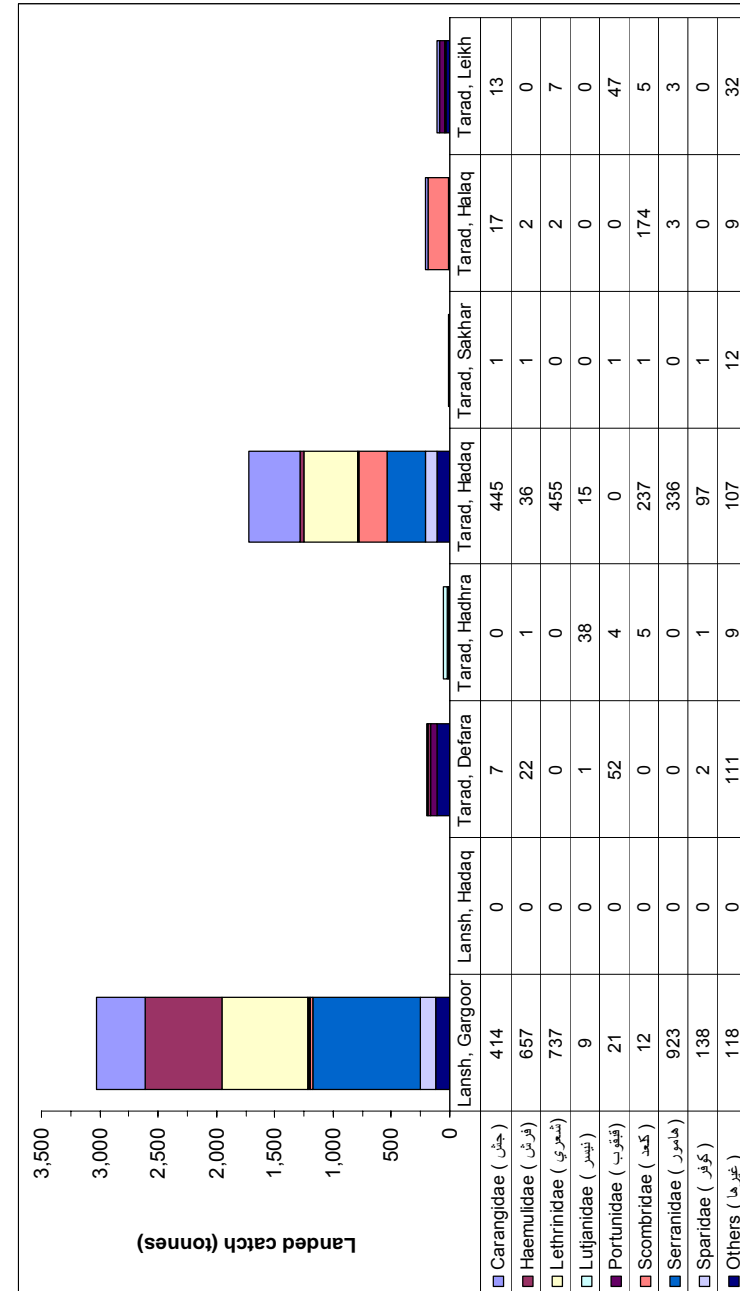


Figure 14 – Total catch of principal fish families landed by fishing method

Figure 14 summarizes the total catch by principal families of fish landed by fishing method. The traditional Gargoor traps dominated the fishery in the Emirate of Abu Dhabi with 56% of total catch coming from lansh vessels operating gargoors. Tarad fishermen operating Hadaq (hand line), Halaq (encircling net) and Al Defara (encircling net) accounted for 32%, 4% and 4% of the total catch landed in 2007, respectively. In particular, Gargoor and Hadaq target multiple species as the species composition of these gear types clearly shows.

Figure 16 demonstrate the differences in the composition of fish caught by lanshes and tarads. Lansh fishermen concentrated their efforts to four main species groups: Hamour Serranidae (30%), Shaari Lethrinidae (24%), Farsh Haemulidae (22%) and Jesh Carangidae (14%). The full range of fish landed by lanshes consisted only of demersal species.



Figure 15 – The landing of Farsh and Hamour by a lansh at Delma Island

The species composition of landings from tarad fishermen in 2007 were dominated by Jesh Carangidae (22%), Shaari Lethrinidae (20%), Kanaad Scmbridae (18%) and Hamour Serranidae (15%).

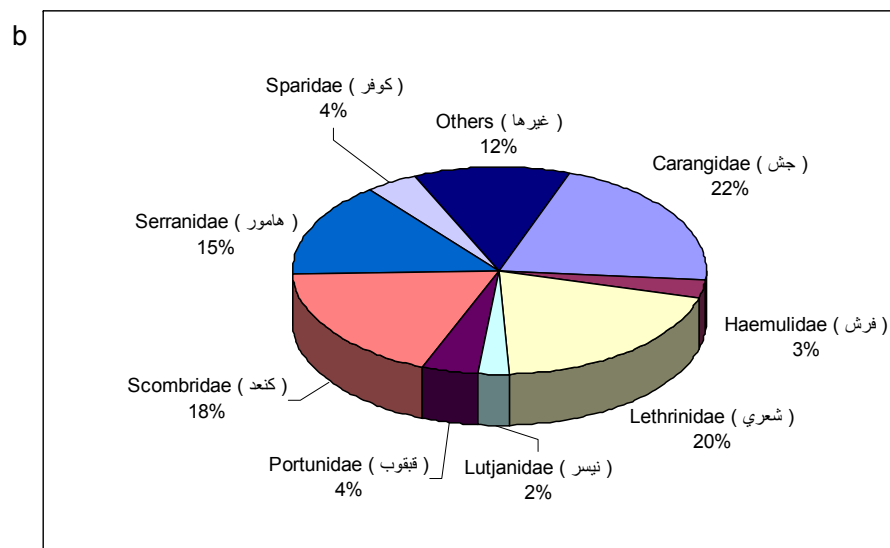
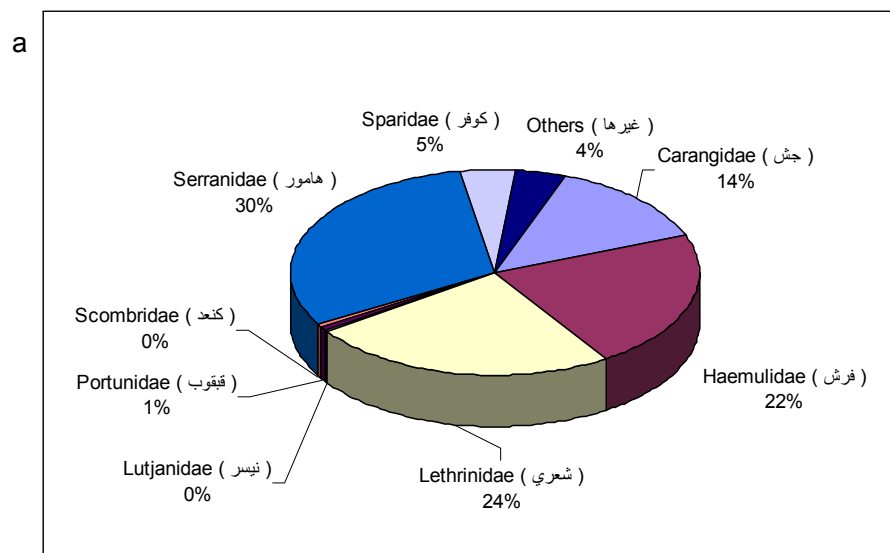


Figure 16 – Species composition of landings by a Lansh (a) and Tarad (b)

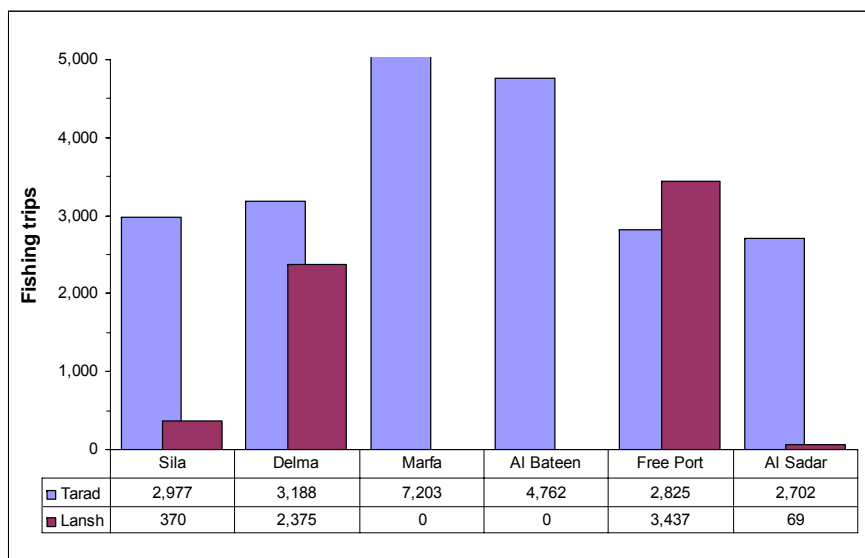


Figure 17 – Number of trips by landing site and boat type in 2005

While there was little difference in total landings between lanshes and tarads (Figures 12 – 14), the number of tarad trips is significantly higher than lansh trips, 81% to 19%, respectively (Figure 17).



Figure 18 – Tarads lined up at Free Port

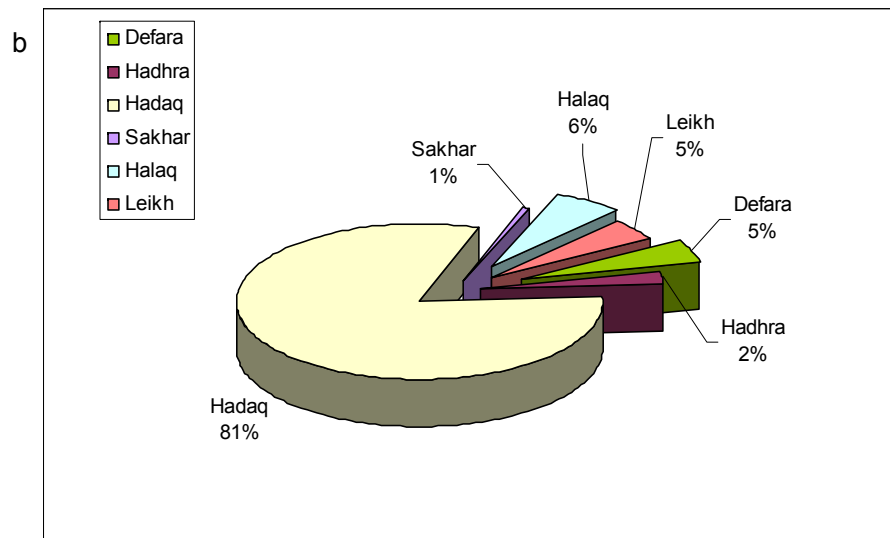
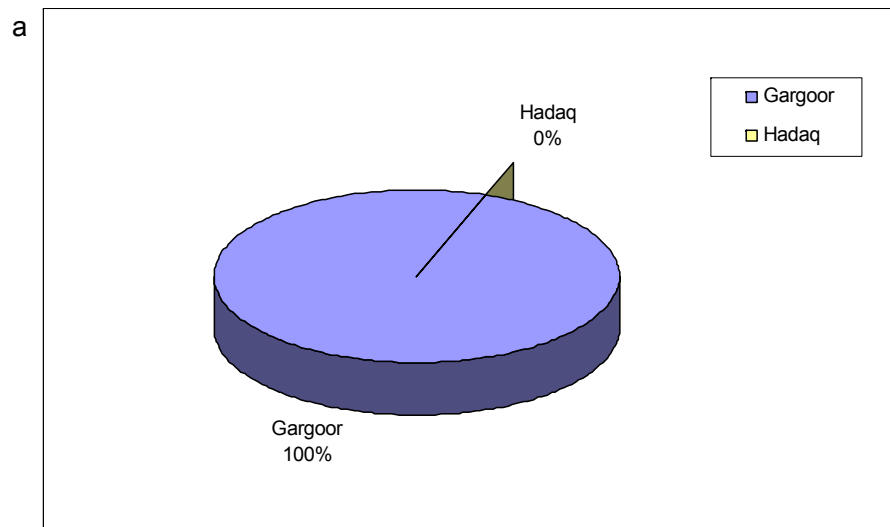


Figure 19 – Breakdown of main gear types used on a Lansh (a) and Tarad (b)

As indicated earlier, Gargoor is the dominant gear type in lanshes (Figure 19a). Gargoor traps target bottom dwelling species, of which Hamour (*Epinephelus coioides*) is the most common species. Other fishing methods, such as hand line or trolling, are operated in between the hauling and setting of Gargoor traps by lanshes.

Tarad fishermen in the Emirate of Abu Dhabi operate a wider range of fishing methods of which Hadaq (hand line) is the most common gear type (Figure 19b). Other main gears operated from tarads include Defara and Halaq. The operation of Al Hadhra and Al Sakkar also require the use of tarads.

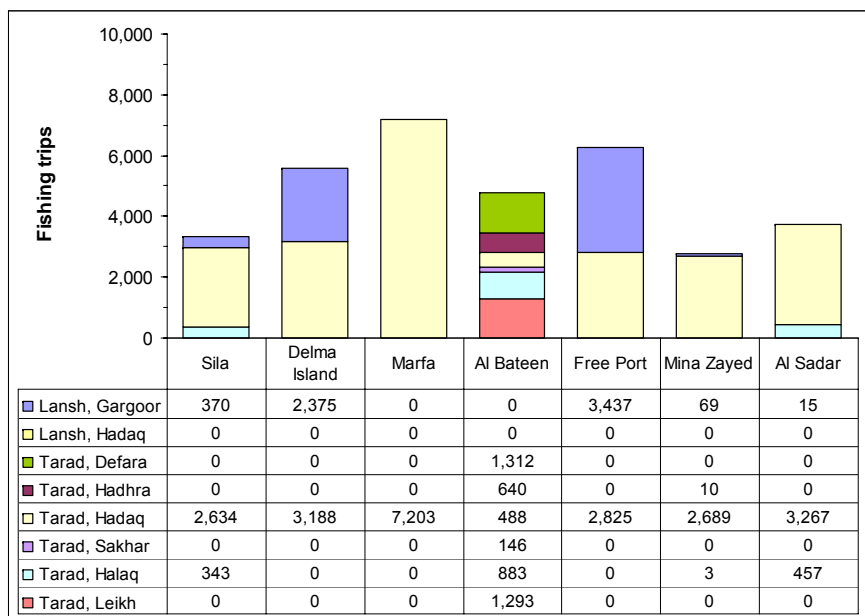


Figure 20 – Distribution of fishing methods by landing site

Figure 20 shows the distribution of fishing gears by area. Landings by Hadaq form a significant proportion of the catch throughout the Emirate

of Abu Dhabi, whereas landings by Gargoor dominated catches at Free Port and Delma. Al Halaq (encircling net) was mostly used around Al Sadar, Al Bateen and Sila during the fishing season for Kanaad.



Figure 21 – Hadaq (hook & line) in operation

Figure 22 shows the contribution of fishing methods by month. Figure 24 and 25 portrays the value of landings of different species by fishery method and landing sites.

The total wholesale value of fish landed in the Emirate of Abu Dhabi is estimated at 63.2 million AED in 2007, of which 44% was realized by lanshes and 56% by tarads.

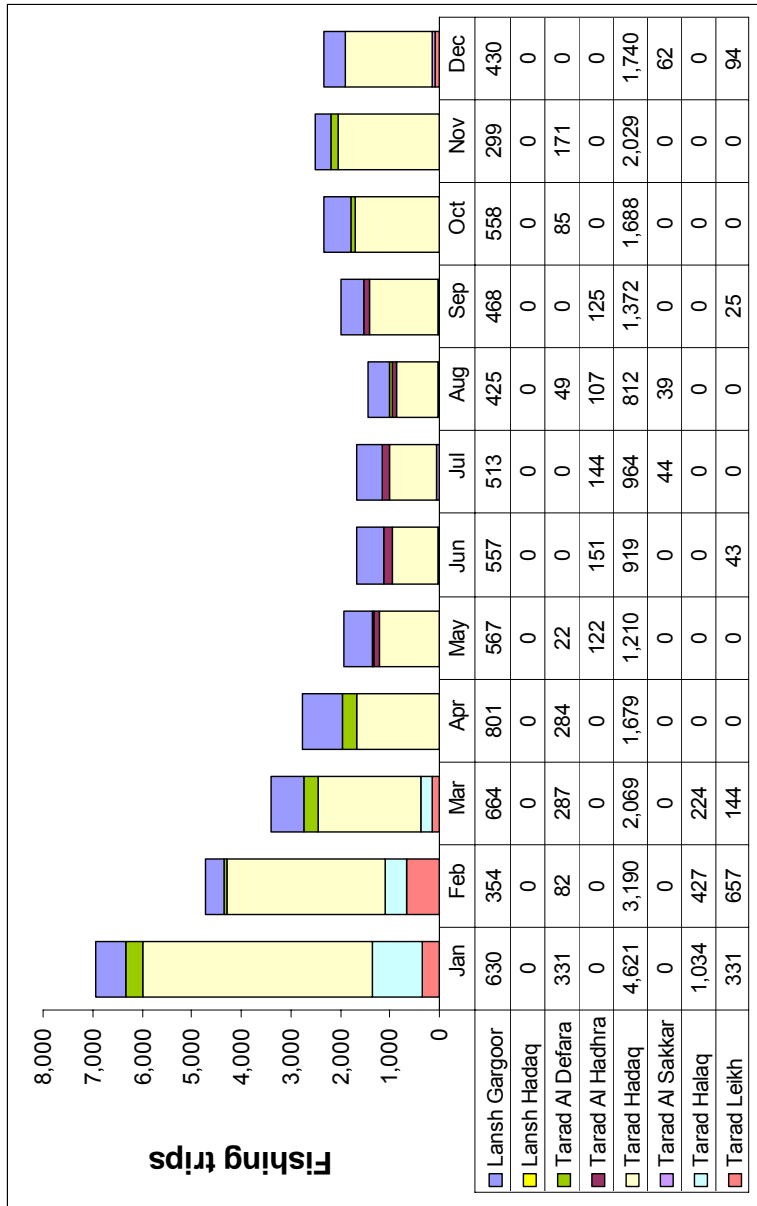


Figure 22 – Fishing methods by month

Gargoor fishing operations generated the most income (35.2 million AED), followed by Hadaq (21.1 million AED) and Halaq (2.9 million AED), likewise Hamour (*Epinephelus coioides*), Shaari (*Lethrinus nebulosus*) and Kanaad (*Scomberomorus commerson*) were the highest valued species, accounting for 38%, 16% and 12% of the total wholesale value of catch landed in the Emirate of Abu Dhabi in 2007, respectively.



Figure 23 – Kanaad (*Scomberomorus commerson*) for sale at fish market

The Free Port was the principal landing site in 2007, contributing 60% of the total wholesale value. Delma Island followed suit with a reasonable 13% of the total wholesale value. Al Bateen and Al Sadar ranked third with a 8.5% share of the total wholesale value.

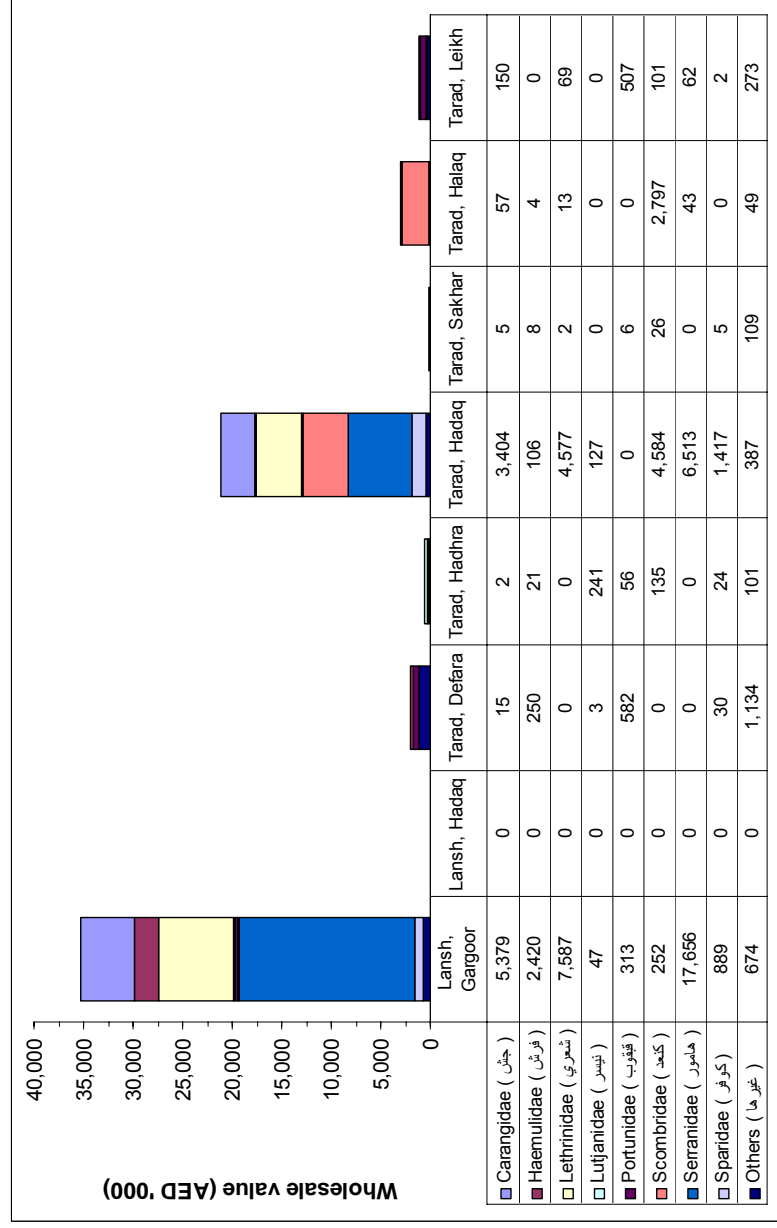


Figure 24 – Wholesale value of principal families by fishing method

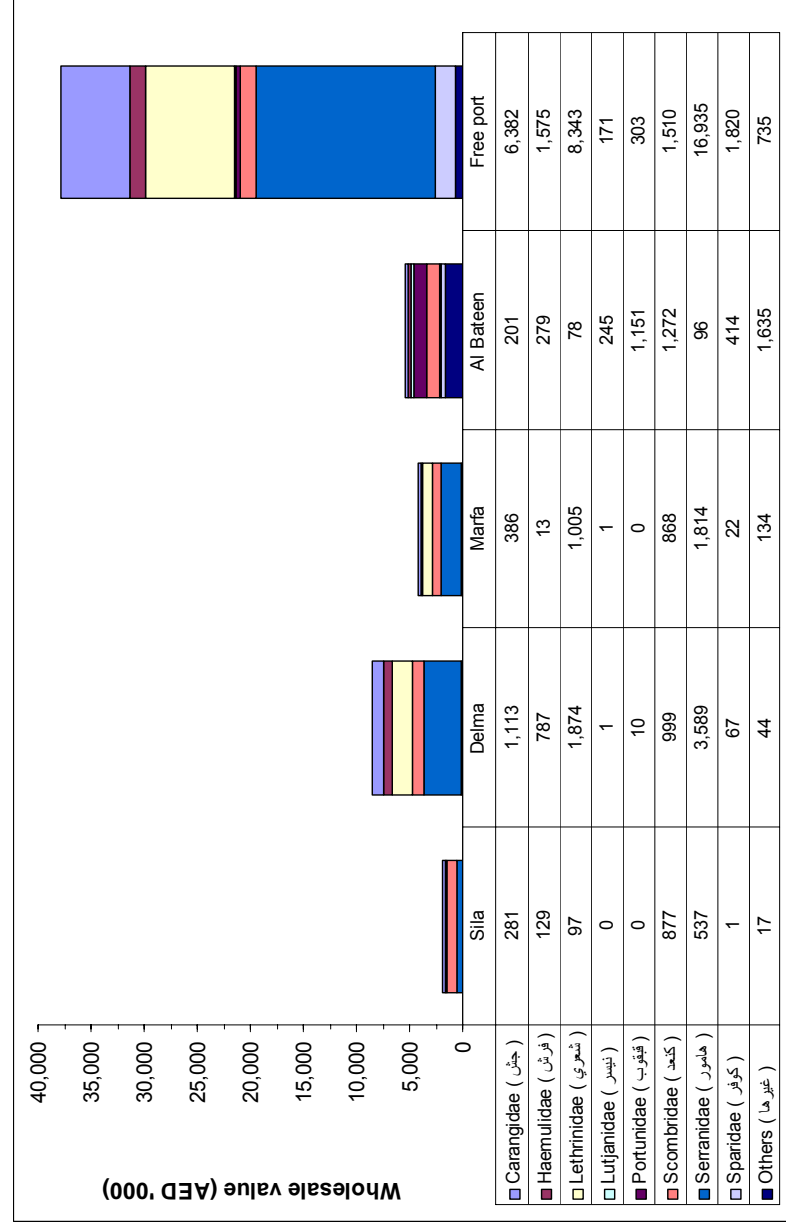


Figure 25 – Wholesale value of principal families by landing site

Acknowledgements

The present overview of Abu Dhabi Fisheries is the result of cooperation between a number of organizations, without which the publication of this bulletin would not have been possible.

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Last but not least, many thanks to all the enumerators of MEW and EAD, who collected catch and effort data during off-office hours, and to all of the database operators who entered the collected data meticulously.



Figure 26 – Enumerators and Database operators from MEW and EAD.