

Chapter 1

Deep-Sea Ecosystems Off Mauritania: An Introduction

Ana Ramos, Fran Ramil and José Luis Sanz

Abstract The waters surrounding the Islamic Republic of Mauritania, located in the Northwest African region, harbour one of the four major upwelling systems and productive areas of the world's oceans. Along 754 km of the desert coastline, the permanent upwelling phenomena and seasonal shifting of the oceanographic front strongly influence the water mass structures, climate and species distribution in the Mauritanian EEZ. Despite oceanographic and faunistic interest and the threats of demersal deep-sea fisheries and oil exploration, for the past few decades, marine research in Mauritania was performed to obtain information on the Banc d'Arguin and other coastal ecosystems; only recently, research is being focused on the study of slope habitats. Between 2007 and 2010, the Spanish Oceanographic Institute launched a partnership program with the Mauritanian Institute for Oceanographic Research and Fisheries and the University of Vigo (Spain) to study the resources and ecosystems in Mauritanian deep waters. Four multidisciplinary expeditions were conducted using the Spanish R/V *Vizconde de Eza*, and geomorphological prospection and oceanographic and biological sampling were performed. Special efforts were made to characterize the Banc d'Arguin canyon systems, the giant coral carbonate mounds barrier and a newly discovered seamount. In this monograph, we tried to compile, in one volume, the main findings of the *Maurit* surveys and provide a detailed description of the bathymetry, geomorphology and oceanography, and biodiversity and structure of demersal fishes and benthic communities that inhabit the soft- and hard-bottom habitats of the Mauritanian slope.

Keywords Marine research • Spanish surveys • Continental margin • Deep-sea ecosystems • Mauritania • Northwest Africa

A. Ramos (✉)

Instituto Español de Oceanografía, Subida a Radio Faro, 50-52, 36390 Vigo, Spain
e-mail: ana.ramos@ieo.es

F. Ramil

Universidade de Vigo, Campus Lagoas-Marcosende, 36310 Vigo, Spain
e-mail: framil@uvigo.es

J.L. Sanz

Instituto Español de Oceanografía, Corazón de María, 8, 28002 Madrid, Spain
e-mail: JSANZ_A1@telefonica.net

General Context

The Islamic Republic of Mauritania is located in the Northwest African region between the 15 and 27 north parallels, and it has an area of 1,030,000 km². The country shares borders with Senegal and Western Sahara, Mali and Algeria and with the Atlantic Ocean (Fig. 1.1) and it forms a geographical and cultural bridge between the Arab Maghreb and western Sub-Saharan Africa.

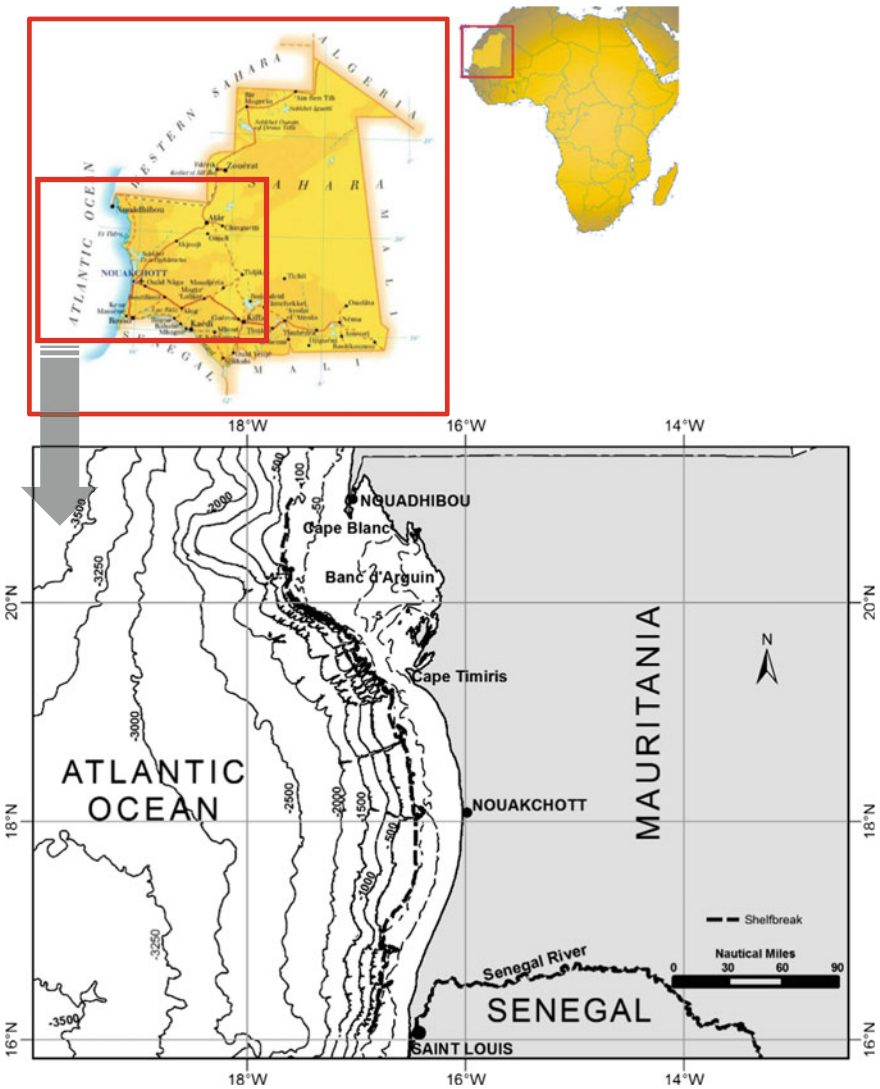


Fig. 1.1 Location and marine physical map of Mauritania that includes some of the main coastal features

The Mauritanian coastline spreads over approximately 754 km along the Sahara Desert, which occupies three-quarters of its terrestrial surface and whose dust constitutes the main source of nutrient input to the seafloor, strongly affecting ocean productivity (Gelado-Caballero 2015) (Fig. 1.2). From the Cape Blanc Peninsula, the northernmost coastal area, to the Senegal River in the south, the coast is generally sandy, flat and dotted with saltwater pools known as *sebkhas*. The Senegal River, the boundary between Mauritania and Senegal, is the only permanent river in Mauritania, and it fertilizes the southern part of the country, providing an important amount of sediments to the sea.

The most noticeable geographical feature in the Mauritanian coast is the Banc d'Arguin, a great bay that stretches from Cape Blanc Peninsula to Cape Timiris along the northern third of Mauritania's coast. Since 1976, about 12,000 km² of shallow water and adjacent desert have been included in the Parc National du Banc d'Arguin, the first National Park established in West Africa. This natural reserve, together with the Baie de l'Étoile, harbours one of the most extensive seagrass communities in the world—covering more than 1000 km² of the surface. Besides, the Banc d'Arguin houses a major nesting and breeding area for migratory birds in the entire western Africa region, and it is one of the most important sites for this fauna worldwide (Ly 2010; Mahfoud et al. 2013) (Fig. 1.2). The surrounding waters of the park, with a wide continental shelf that reaches 110–120 km (and even 138 km in some places), have significant reserves of bivalve molluscs and are

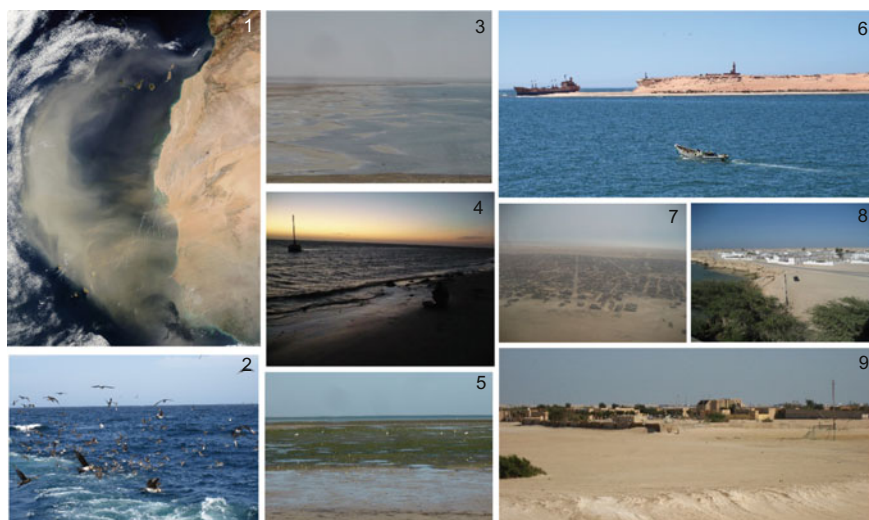


Fig. 1.2 Pictures characterizing the terrestrial and marine environments of Mauritania. Satellite image of the Saharan dust plume over Northwest Africa (1), oceanic birds in the Gulf d'Arguin (2), coastal area of the Banc d'Arguin National Park (3–5), Cape Blanc (6), aerial view of Nouadhibou (7), Puerto Cansado village (8), Cape Blanc Peninsula, where the Mauritanian Institute for Oceanographic and Fishery Research (IMROP) is located (9) [Images: (1) <http://earthobservatory.nasa.gov/>, (2–9) © Ana Ramos]

one of the richest areas for fishing resources in Western Africa (IMROP 2014). The main fishing efforts of the artisanal, coastal and industrial fleets (56–80%), targeted to the exploitation of pelagic and demersal resources, have been developed in the Banc d'Arguin zone (IMROP 2014).

Mauritanian waters are included within the Canary Current Large Marine Ecosystem (CCLME), which spreads from the Gibraltar Strait to the Sierra Leone border. The region lies hydrologically under the influence of the Canary Current, which flows southwards along the African coast between 30°N and 10°N and reaches 20°W offshore (Heileman and Tandstad 2009) (Fig. 1.3a). Northwest Africa harbours major upwelling systems that provide deep and nutrient-rich cold waters, resulting in one of the more productive areas in the world's oceans (Demarcq and Soumou 2015). The upwelling is permanent throughout the year north of Cape Blanc, in the Western Sahara region (21–26°N; Fig. 1.3b), and seasonal between Cape Timiris (Mauritania) and Cape Roxo (Guinea Bissau) (19–12°N), coupled with thermal front displacement (Pelegri and Peña-Izquierdo 2015). This front forms the boundary between warm southern tropical and colder temperate northern waters, being one of the key features of the Mauritanian EEZ that strongly influences the climate as well as species distribution (Bambayé et al. 2010; Mahfoud et al. 2013). In addition, at the Cape Blanc latitude, a giant filament exports this high productivity up to 600 km offshore towards the open sea, enriching deep waters (Gabric et al. 1993; Sangrá 2015).

CCLME is the third most productive large marine ecosystem found worldwide, and it sustains the most productive African fisheries; the yield during the last decade was more than two million tons a year (FAO 2014). In 2012, landings of commercial species in the CCLME represented almost one-third (27.4%) of the total 34 FAO Areas. Catches of fishes, crustaceans and cephalopods in Mauritanian waters reached 431,000 tons in the same year (FAO 2014), which represents 20% of the total landings in the CCLME region (Fig. 1.4).

Marine fishing is effectively a social and economic activity for Mauritania, and it is considered as a strategic sector by the Government because it contributes dynamically to sustainable development (IMROP 2014) (Fig. 1.5). Fishing contributes to 20% of the budget revenues from the state and more than 18% of the export earnings of the country, creating over 40,000 direct jobs (IMROP 2014).

Over the last 20 years, sea fishing in Mauritania has experienced a meteoric development, starting with the massive arrival of foreign industrial fleets, and, more recently, the development of national, artisanal and coastal fisheries (IMROP 2014; FAO 2016). The Mauritanian economy depends largely on fisheries agreements, particularly with the European Union, but also with China, Russia and other countries (Mahfoud et al. 2013). Between 2008 and 2012, global landings in Mauritanian EEZ have doubled from 200,000 to more than 400,000 tons, and in a period of 20 years (1991–2011), catches of pelagic industrial fleets—more than 94% on average—increased by over 300% and those of artisanal and national fleets, over 2000% (IMROP 2014) (Fig. 1.5).

This great increase in fishing effort led to an overexploitation of certain resources: In the 25 years between 1982 and 2006, the biomass of the main 24 target

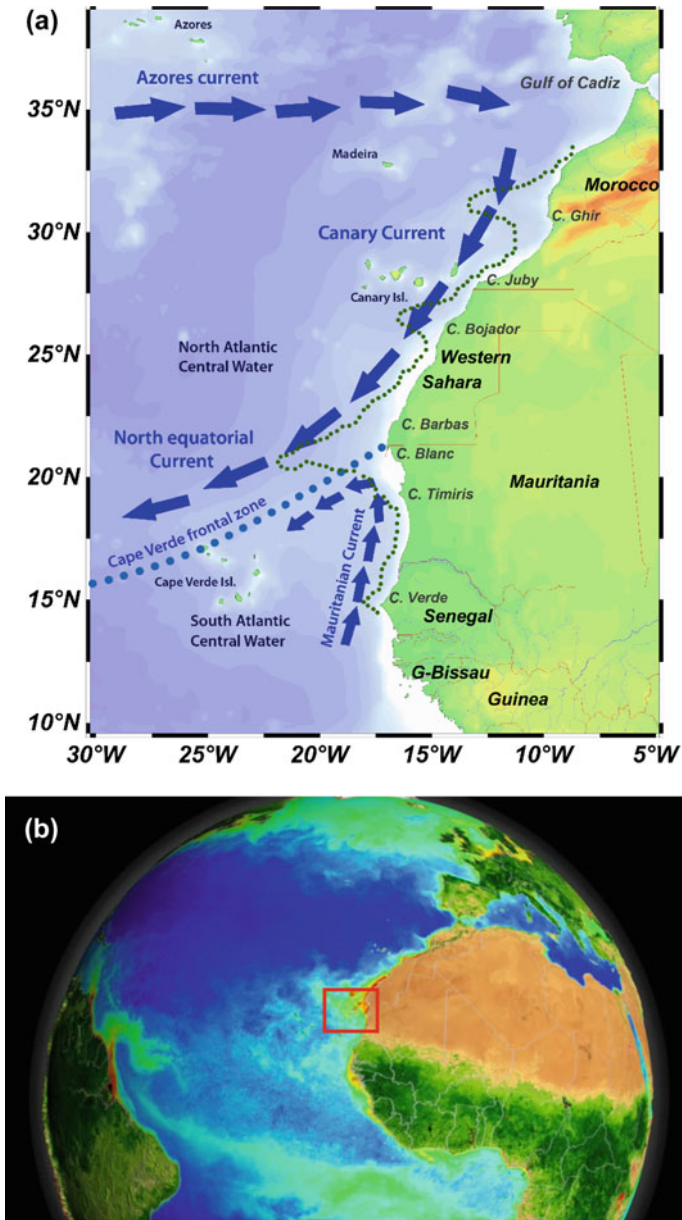
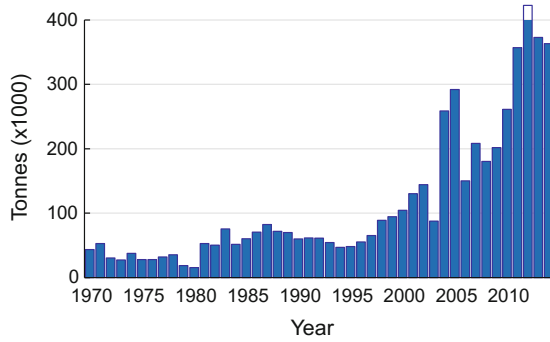
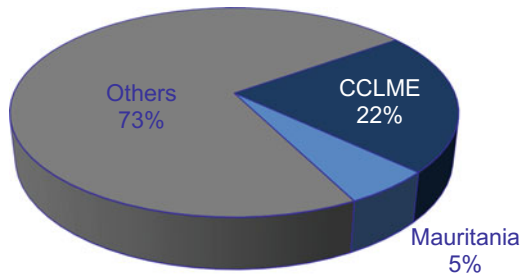


Fig. 1.3 Schematic representation of the main current that affects Northwest Africa (Canary Current Large Marine Ecosystem region) (a) (Author: César Meiners); satellite image that shows the high productivity of Mauritanian waters (chlorophyll a values) (b) (Source <https://svs.gsfc.nasa.gov/>)

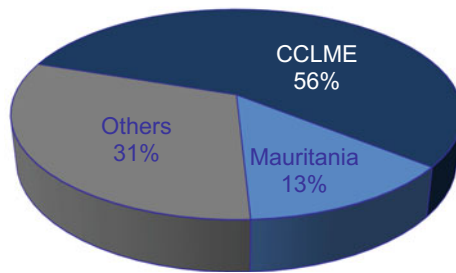
Fig. 1.4 Evolution of the historical global captures in Mauritanian EEZ between 1970 and 2014 and percentage of the Mauritanian and CCLME region captures in the total 34 FAO Area in 2012 and 2013 (source FAO 2016, FAO—Fisheries and Aquaculture Information and Statistics Branch—Accessed: 18 April 2016)



FAO 34 - 2012
Catches = 4.1 million tons



FAO 34 - 2013
Landings = 3.9 million tons



demersal species on the Mauritanian continental shelf was reduced by 75%, from 250,000 tonnes to less than 100,000 tonnes. Moreover, the trophic structure has been significantly modified, decreasing the mean trophic level of the catchable biomass from >3.7 to <3.5 (Gascuel et al. 2007).

In addition to the overexploitation of commercial resources, the activities of industrial trawl fishing constituted, for more than three decades, a major menace to the biodiversity of marine and coastal habitats in Mauritania. New oil exploration



Fig. 1.5 Socio-economic importance of the fishing sector in the Mauritanian economy. Industrial demersal and pelagic fisheries (1–3) and different scenes of the artisanal fisheries: pirogues in the Nouadhibou artisanal harbour and fishing offshore (8 and 10), activities on the artisanal fishing beach of Nouakchott (5, 9, 11, 13–15) and some important commercial species (4, 6, 7 and 12) [Images: (2) © Ramón G. Cancela, (3) © Greenpeace, (1, 4–15) © Ana Ramos]

and extraction offshore (Colman et al. 2005) and other human activities (i.e. extension of the autonomous port of Nouadhibou) threatens the Mauritanian ecosystems, mainly in the Banc d’Arguin area, which is the most productive and sensitive zone (Mahfoud et al. 2013).

Although the coastal protected areas constitute 12% of the total marine surface and four areas meeting the EBSA criteria (Ecologically or Biologically Significant Marine Areas) have been proposed in Mauritania (UNEP 2014), the protected area system has not yet been properly applied for offshore waters (UNEP 2006). Currently, concerns of the Mauritanian Government and the Institute of Oceanographic Research and Fisheries (IMROP) about the impact of trawling fisheries, especially in the deep sea, have increased. In recent decades, depletion of shelf resources has caused the displacement of some trawler fleets to 800 m—or sometimes even to 1000 m—in search of new fishing grounds (FAO 2006, 2012), affecting still unknown ecosystems. Despite these strong threats, available data on the biodiversity, structure and functioning of Mauritania’s ecosystems, including benthic communities, are still fragmentary (IMROP 2014). The last Working Groups on Evaluation of Mauritanian EEZ (Mahfoud et al. 2013) strongly highlighted the need to map areas of ecological interest and define their sensitivity to disturbance; furthermore, research on marine biodiversity and the monitoring of endangered and vulnerable species along the coast of Mauritania should be strengthened.

Marine Scientific Knowledge

Scientific knowledge on environmental features and marine fauna off Mauritania has been mainly acquired in the framework of the expeditions undertaken in the 19th century and until the middle of the 20th century; the expeditions first focused on the North Atlantic and later, the Northwest African region. Particular surveys and projects were conducted in the EEZ of Mauritania only during the last few decades. Monod (1933), Maurin (1968), Van der Knaap (1985) and Chavance (2002) have provided historical revisions and inventories of major expeditions undertaken along the African coasts.

Northwest Africa

First marine invertebrates and fishes from Mauritanian waters were collected in 1872–1876 during the *HMS Challenger* expedition around the world. In the second half of the 19th century and first half of the 20th century, different European institutions conducted North Atlantic expeditions—some of which also included the Northwest African coasts—and collected samples in the area between the Strait of Gibraltar and Cape Verde Islands. Of these historical and emblematic campaigns, we should mention those undertaken by the *Travailleur and Talisman* (1880–1883), *Prince Albert I of Monaco* (1885–1920) and *Michael Sars* (1910).

Nevertheless, knowledge on Mauritanian marine fauna is mostly related to the expeditions carried out exclusively along the Northwest Africa, mainly during the 20th century. Some older expeditions in the last part of the 19th century were also particularly important, such as the German expedition on-board the *Gazelle* (1874–1876) and the *Chazalie* schooner (1895). In 1909, the Dutch trawler *Hollande VII* conducted a series of experimental fishing between the Canary Islands and Angola, working for a certain period in the area of Cape Blanc. The fifth cruise of *President Theodore Tissier* was conducted from Villa Cisneros to Sierra Leone in 1936; the voyages of the Belgian ship *Mercator* sampled from Cape Boujador to Conakry in 1934–1936; the Danish expedition aboard the *Atlantide* worked along the African tropical coast in 1945–1946 and the French expeditions aboard the *Calypso* explored northwest Africa and the Gulf of Guinea in 1956.

Most of the findings of the aforementioned campaigns were disseminated in monographic series and specific publications containing mainly faunistic reports, descriptions of new species and inventories or catalogues of different groups. Because of their relevance, the report of the scientific results of the voyage of the *HMS Challenger* in 1873–1876, the *Expéditions scientifiques du Travailleur et du Talisman pendant les années 1880, 1881, 1882, 1883*, the *Résultats des campagnes scientifiques accomplies sur son yacht par Albert Ier* and the *Atlantide Reports* or the *Résultats Scientifiques des Campagnes de la Calypso* should be noted.

From the middle of the 20th century, biological research took a more consistent character—despite the frequent focus on fishing—acquiring new information in the fields of zoology, bionomy and ecology (Maurin 1968). In addition, during the colonial and independence periods, the Institut Fondamental de l’Afrique Noire (IFAN) and the Office de la Recherche Scientifique et Technique d’Outre-Mer (ORSTOM), currently Institut de Recherche pour le Développement (IRD), promoted marine research, contributing significantly to information on the coastal zone. From 1939 to 1963, these local institutes developed more limited campaigns in Mauritania, Senegal and Guinea (Le Loeuff and von Cosel 1998). The *Gerard Treca*, a small research vessel of the IFAN, accomplished important studies and faunal collections in the region during 20 years under the direction of prestigious scientists such as Cadenat, Marche-Marchad, Roux and Sourie.

In all the above-mentioned surveys, most of the samples were collected from the continental shelf, and, as a result, the deep-sea fauna of northwest Africa is among the least studied (Decker et al. 2004). The *Thalassa* and *Discovery* surveys in the 1960s and 1970s marked a turning point because they conducted samplings to a depth of 1200 m.

Similarly, oceanographic research in Northwest Africa did not start until the 1970s, when important programs were developed at a regional level. Until the 1960s, a few hydrographic sections of the eastern tropical North Atlantic Ocean had been surveyed, and the surveys were carried out by German (R/V *Meteor*) and United States (R/V *Atlantis* and *Crawford*) expeditions (Wüst 1964). Hence, systematic exploration of the Cape Verde Basin and, more particularly, the shelf and slope waters off Mauritania did not start until the International Decade of Ocean Exploration (IOC 1974). Between 1971 and 1977, some 100 oceanographic cruises were undertaken in the area from the Strait of Gibraltar (36°N) to 10°N as part of the Cooperative Investigation of the Northern part of the Eastern Central Atlantic (CINECA) programme (Hempel 1982). Although this international multidisciplinary programme was focused on biological and fishing research, many cruises were devoted to hydrography, providing the first detailed descriptions of the physical environment in the coastal upwelling region as well as the latitudinal changes between tropical and subtropical waters.

In addition, during the 1970s, the first geomorphological explorations and publication of the first bathymetric maps of Northwest Africa, including the Mauritanian continental margin, were carried out (Jacobi 1976; Seibold and Hinz 1976; Uchupi et al. 1976; Jacobi and Hayes 1982, 1992; see Chap. 2 for references). The first sedimentological maps of Mauritania and Senegambia shelves were published by Domain (1977, 1985).

After the CINECA programme, field oceanographic research in the Cape Verde Basin remained ongoing, mainly thanks to the efforts of German scientists (Mittelstaedt 1983, 1991; Zenk et al. 1991; Müller and Siedler 1992; Siedler et al. 1992; Karstensen et al. 2008; Stramma et al. 2008; Brandt et al. 2010) and, more recently, Spanish oceanographers (Martínez-Marrero et al. 2008; Pastor et al. 2012; Peña-Izquierdo et al. 2012).

Mauritania

Although the first scientific survey conducted exclusively in Mauritanian waters dates back to the French Mission *Gravel*—from the Bay of Nouadhibou, in the north, to the border with Senegal, in the south, in 1905—it was only in the second half of the 20th century that Mauritanian waters were noted as a zone of faunistic interest.

In 1962, 1968 and 1971, the *Thalassa* explored the area stretching from the Canary Islands to the northern part of Senegal River—including the Banc d'Arguin and surrounding waters. The findings provided important information on commercial species of fishes, decapods and cephalopods, description of benthic biocenosis as well as the first distribution maps from Mauritanian soft bottoms (Maurin 1968; Maurin and Bonnet 1970; Bonnet et al. 1971) (see Chaps. 4 and 7).

For many years, marine research in Mauritania was mainly focused on ornithology and fisheries in the Banc d'Arguin zone (see review of Wolff et al. 1993). The fishery research in Banc d'Arguin and offshore waters was performed by the Centre National de Recherches Océanographiques et des Pêches (now the Institut Mauritanien des Recherche Océanographiques et de Pêches, IMROP) at Nouadhibou, and the studies provided important information on shallow-water fishes, hydrography and plankton (Wolff et al. 1993).

The benthos in the northern coast of Mauritania was extensively sampled during the *CANCAP-III* survey, developed in the framework of the long-term *CANCAP* programme (1974–1989) of the Netherlands (van der Land 1987). This project also had the aim of the studying the biogeography and distribution of benthos at a regional level, from the coast to a depth of 4000 m (den Hartog 1984; van der Land 1987).

The most comprehensive study of the continental shelf and slope of Mauritania was performed by the Dutch *Tyro Mauritania-II* expedition in 1988. This project was conducted to clarify the functioning of the Banc d'Arguin ecosystem and its interactions with open ocean systems (van der Land 1988; Wolff et al. 1993).

The findings of both *CANCAP* and *Tyro Mauritania-II* expeditions are included in more than 120 contributions published in the journals of the Rijksmuseum van Natuurlijke Historie of Leiden. However, an important part of the numerous collections gathered by the oceanographic surveys remains stored in museums and scientific institutions or is currently under study.

During the last few decades, different studies have focused on specific areas or subjects related to marine research in the Mauritanian shelf and continental slope. Since the 1980s, IMROP has carried out biological and ecological research on different aspects of particular commercial species from coastal areas and littoral habitats at the Galgos Bay and Cape Blanc region, Etoile Bay and Banc d'Arguin (Maigret 1980; Diop 1988; Mint 1987; Ly 2009; Ould Baba 2010).

Although the existence of the Banc d'Arguin canyons was known for years (Maurin 1968) and oil exploration recently led to the discovery of part of the giant

cold-water corals reef (Colman et al. 2005), information on these particular habitats and benthic biodiversity is scarce and fragmentary (Mahfoud et al. 2013).

German and Spanish multidisciplinary surveys developed on-board the R/V *Maria S. Merian* (2007 and 2010) and *Vizconde de Eza* (2007–2010) (Hernández et al. 2008; Ramos et al. 2010; Westphal et al. 2007, 2012) focused on the research of deep ecosystems on the Mauritanian slope only during the last decade.

The *Maurit* Surveys

Since 2002, the Spanish Institute of Oceanography (IEO) implemented a multidisciplinary programme that included 22 scientific surveys, some of them in deep waters, along the coasts of Atlantic and Indian African countries, where Spanish fishing fleets traditionally operated. All these surveys were developed in the framework of bilateral intergovernmental agreements between the Fisheries Ministry of Spain and the counterparts in the African countries.

From 2007 to 2010, IEO started a collaborative program with IMROP and the University of Vigo (Spain) to study the resources and ecosystems in Mauritanian deep waters. This research was developed in the framework of a larger project, *EcoAfrik*, focused on the study of the biodiversity of benthic ecosystems along the African coasts.

Four multidisciplinary cruises of one-month duration (November to December) were carried out on-board the Spanish R/V *Vizconde de Eza* to study the continental margin of Mauritania (from 80 to 2000 m). The cruises performed geomorphological prospection and oceanographic and biological sampling. Special efforts were made during the two last surveys to characterize the Banc d'Arguin canyon systems, the giant coral carbonate mounds barrier and a seamount discovered to the south of Nouakchott during the surveys.

These four cruises—*Maurit-1107*, *Maurit-0811*, *Maurit-0911* and *Maurit-1011*—performed 342 trawling and dredging operations (Fig. 1.6) and 54 plankton trawls, recorded 267 oceanographic profiles (Fig. 1.7), collected 211 sediment samples and achieved multibeam echosounder of 28,122 km² (Fig. 1.8). We caught more than three million individuals (176 tons); measured 170,000 specimens; performed biological sampling of 12,000 fishes, crustaceans and cephalopods; and preserved more than 25,000 fishes and invertebrates for later identification and faunistic collections.

This undoubtedly is the first and most comprehensive project along the African continental margin and in Mauritanian waters, aimed to the study of biodiversity and ecosystems. The results have provided an overview of the demersal and benthic communities living in the deep waters off Mauritania as well as information on the environmental conditions in which they develop.

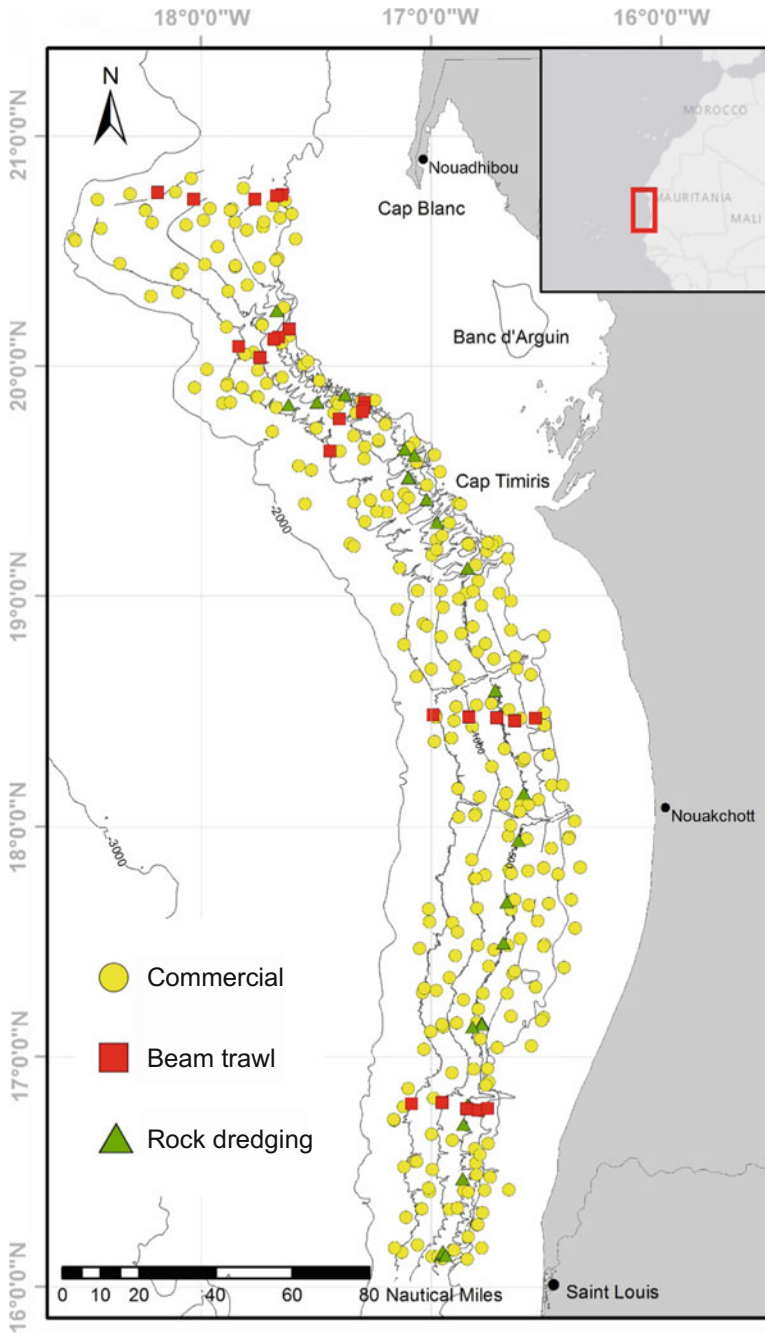


Fig. 1.6 Location of sampling stations with commercial and beam trawl gears, and rock dredging during the *Maurit* surveys (Author Luis Miguel Agudo)

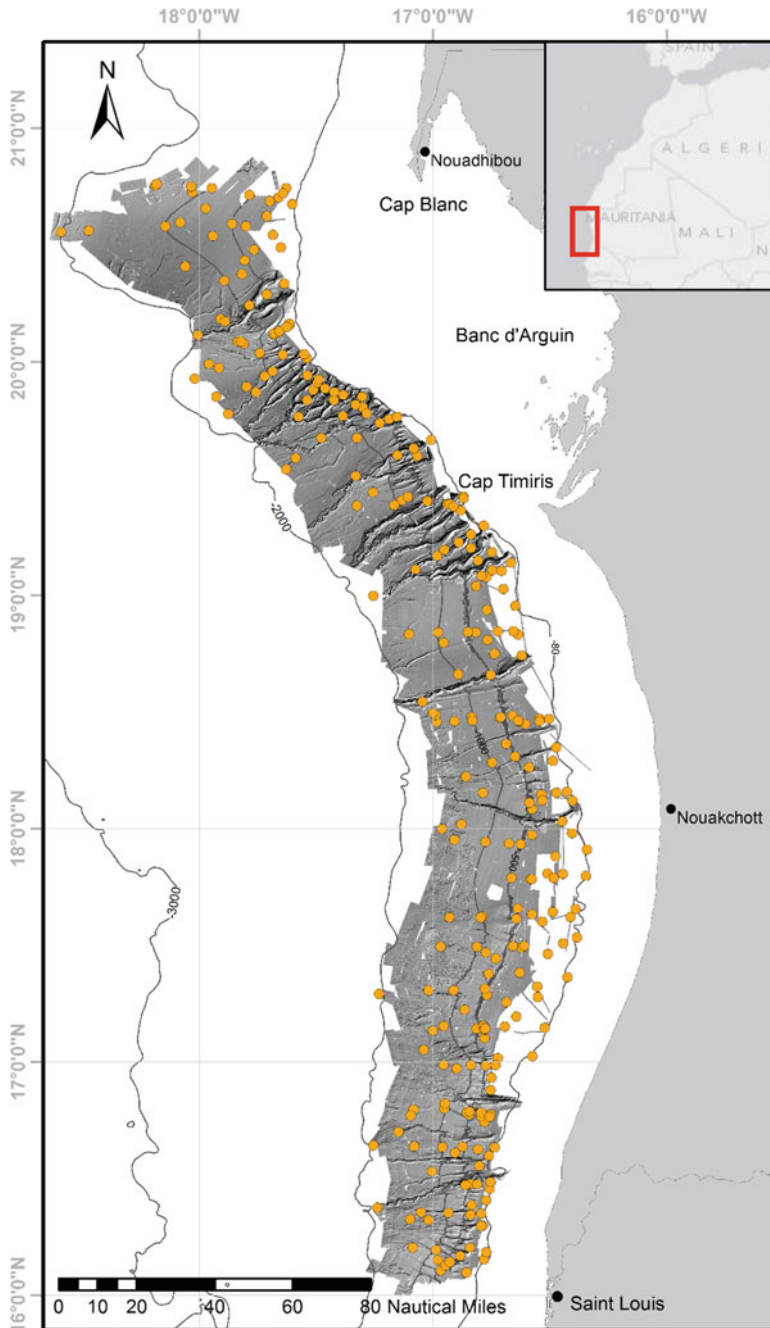


Fig. 1.7 Location of oceanographic stations where profiles with CTD and net sensors were obtained during *Maurit-0911* and *Maurit-1011* surveys (Author Luis Miguel Agudo) (Annexe 1.1)

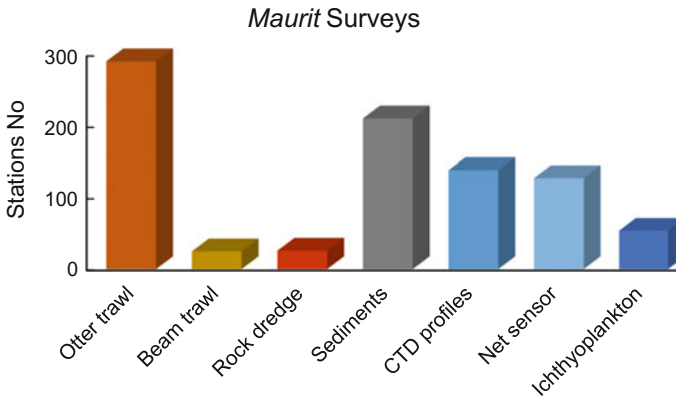


Fig. 1.8 Number of stations or samplings carried out with different devices during the *Maurit* surveys

Scientific Objectives

The overall aim of the two first surveys, *Maurit-1107* and *Maurit-0811*, was the exploration and evaluation of existing demersal resources in the continental shelf and slope off Mauritania between 80- and 2000-m depth. During the two later expeditions, *Maurit-0911* and *Maurit-1011*, another goal—characterization of demersal, benthic and zooplanktonic communities and vulnerable marine ecosystems—was added to the previous ones.

The specific objectives of the surveys were as follows:

1. Estimation of the yields in number and weight of all demersal species, particularly those of commercial value.
2. Mapping of coastal and deep demersal resources of current or potential fishing interest in the Mauritanian EEZ.
3. Obtaining the size population structure of fishes, crustaceans and cephalopods.
4. Obtaining the main biological parameters of target fish and invertebrate species of commercial interest.
5. Study and identification of megabenthic and macrobenthic invertebrates.
6. Prospection of the seabed by using a multibeam echosounder and high-resolution seismic (TOPAS) for elaboration of bathymetric and geomorphological maps and digital terrain models, to identify possible relationships between geomorphological features and biological communities.
7. Oceanographic characterization of the study area by using vertical CTD profiles and net sensors.
8. Geomorphological, oceanographic and faunal characterization of the cold-water coral structure, northern canyons system and seamount.
9. Characterization of zooplanktonic communities and location of larvae of hake and other species of commercial interest.

10. Elaboration of comprehensive faunal inventories and characterization of the biodiversity of demersal and benthic assemblages.
11. Implementation of reference faunistic collections of IMROP, IEO and University of Vigo.
12. Fresh comprehensive photographic inventory of species and external morphological details for taxonomic identification.
13. Photography and video recording for dissemination of scientific knowledge on African benthic biodiversity.

The R/V Vizconde de Eza

The *Vizconde de Eza* is an oceanographic research vessel designed and equipped with instrumentation for fisheries and oceanographic research (Fig. 1.9). The ship, which belongs to the Spanish General Secretariat of Fisheries (former General Secretariat of the Sea) from the Ministry of Agriculture, Food and Environment, was built by M. Cies Shipyards in Vigo (Spain) and launched in March 2000. The first oceanographic survey was performed in April 2001.



Fig. 1.9 The Spanish oceanographic vessel R/V *Vizconde de Eza* leaving the harbour of Santa Cruz de Tenerife after the *Maurit-1107* survey in December 2007 (© Ana Ramos)

The *Vizconde de Eza* presents a prow with a bulb and transom stern with a ramp, and it has the following technical characteristics: 1400 GRT; length, 53 m; beam, 13 m and 1800 HP; the ship can reach a speed of 13 knots and retains power for 40–50 days. It is equipped with a dynamic positioning system and a reinforced prow, which allows work between floating ices. Its stern davit acts as fishing gantry crane and for the tacking, recovery and trawling of equipment used in oceanographic operations.

The ship boasts six specialized laboratories (chemistry, biology, physics, acoustics, humid and informatic) for fisheries and oceanographic research, all them equipped with a fibre-optic computer network. The *Vizconde* has a retractable keel where the transducers for acoustic detection equipment and control gear are installed, allowing its advanced geophysical instrumentation to carry out cartography of the seabed up to 5000-m depth. The boat has the capacity for 35 people: 16 places for scientists and 19 for crewmen, distributed among the bridge, machines, deck and kitchen personnel.

Overall Planning of the Surveys

The four *Maurit* surveys lasted one month and were conducted between mid-November and mid-December from 2007 to 2010.

The load of the material and scientific equipment was carried out two weeks before in the ports of Vigo—where the *Vizconde de Eza* has its base—or Santa Cruz de Tenerife, in the case of the *Maurit-1107* survey in 2007.

The Spanish and Mauritanian scientific team embarked from the port of Nouakchott (Mauritania) in 2008 and 2009 or those of Santa Cruz de Tenerife or Las Palmas (Canary Islands) in 2007 and 2010. In the latter case, the vessel made its journey to Nouadhibou, anchoring in the Galgos Bay so that the Mauritanian researchers could come on-board (Fig. 1.10). Surveys were divided into two legs, with a mid-scale campaign in the ports of Nouakchott or Nouadhibou for the replacement of the Mauritanian scientific team and some Spanish researchers (Hernández et al. 2008; Ramos et al. 2010).

As a consequence of its multidisciplinary character, the activities performed during the expeditions were as follows:

1. Geomorphological prospection with the multibeam echosounder and TOPAS.
2. Prospection of demersal resources by trawling with a commercial gear-type Lofoten.
3. Sampling of the macrobenthos with beam trawl gear at selected transects perpendicular to the isobaths (*Maurit-0911* and *Maurit-1011*).
4. Megabenthos sampling over the carbonate mounds barrier, northern canyons and seamount by using a rock dredge (*Maurit-0911* and *Maurit-1011*).
5. Ichthyoplankton sampling with a Bongo net (*Maurit-0911*).
6. Sampling of the water column with vertical CTD and net sensor (except during *Maurit-1107*).



Fig. 1.10 Reaching the *Vizconde de Eza (I)*. Embarking and disembarking are normally carried out through the Port de l’Amitié, the harbour in southern Nouackchott (6) or on the open sea outside the Galgos Bay (8) by using an old tugboat, the pneumatic boat of the *Vizconde* or other small vessels (2–4, 5, 7–11) (© Ana Ramos)

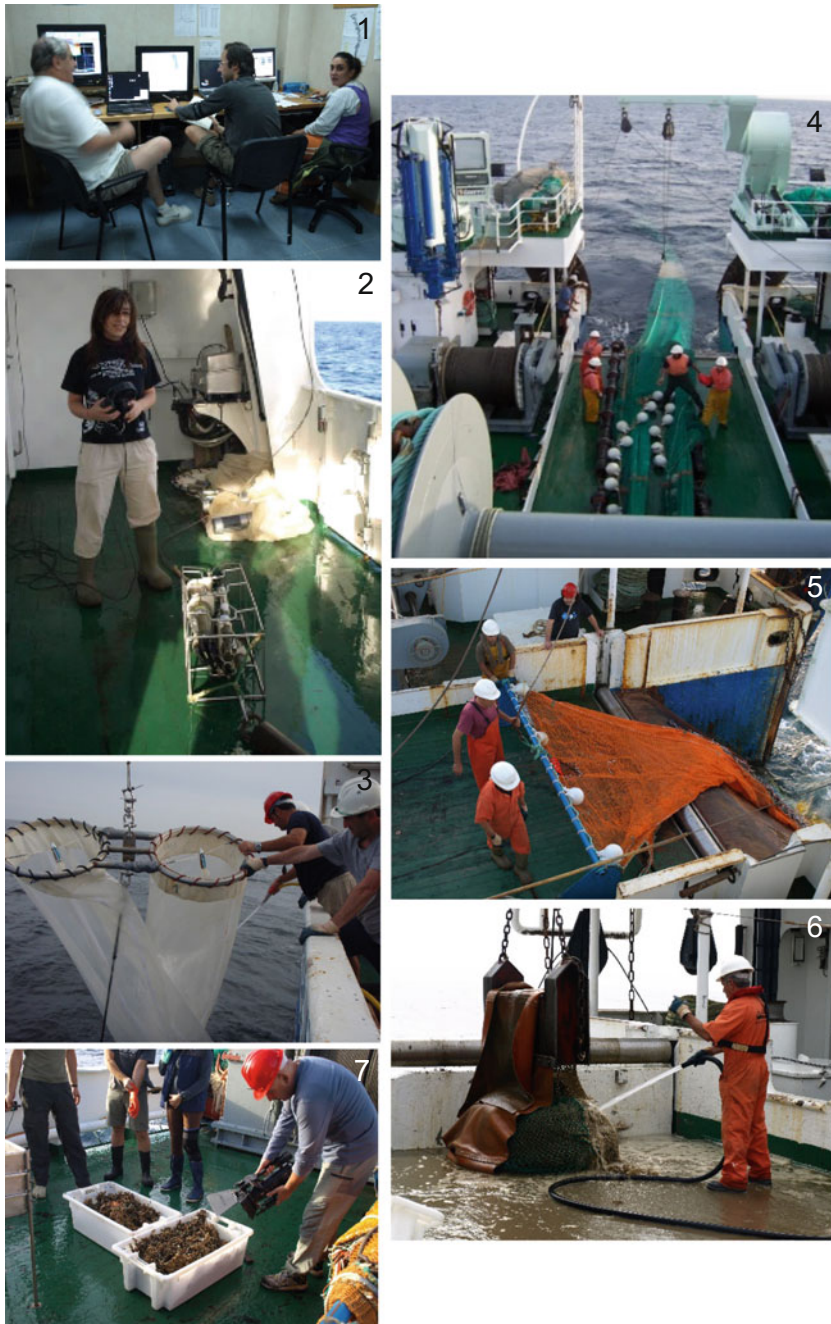


Fig. 1.11 Scientific activities performed on-board in 24-h shifts during the *Maurit* surveys: geophysical exploration (1), CTD and plankton sampling (2, 3), bottom trawling with commercial gear and beam trawl (4, 5), dredging over hard bottoms (6) and audio/visual recording (7) © Ana Ramos

The activities were performed without interruption in 24-h shifts. The geophysical exploration was performed overnight, from approximately 2100 to about 0600 the next day, when a rapid processing of information—to identify suitable trawling areas—was conducted. Then, at about 0700, the first trawl manoeuvres with either the commercial gear, beam trawl or rock dredge were started. Zooplankton and CTD sampling were performed at the end of the day, after fishing and benthos trawling (Fig. 1.11).

Methodology

The complete methodology used in the surveys has been extensively described by Hernández et al. (2008) and Ramos et al. (2010), while particular methods used for the geomorphological, oceanographic and beam-trawling research have been described in the respective chapters in this volume (Chaps. 2, 3 and 8). Here, we have described only the commonly used sampling methods used for the research whose results are presented in several chapters of this book: bottom trawling prospection with commercial gear, carried out on soft bottoms, and rock dredge sampling performed over the hard structures.

The commercial trawl samples provided the basic faunistic material for the study of fishes—bony fishes and chondrichthyans (Chaps. 4–6)—, global megabenthos (Chap. 7), decapods, cephalopods, hydrozoans and echinoderms (Chaps. 9–12). The material obtained in the rock dredge samples allowed the first benthic characterization of the main hard-bottom habitats—coral carbonate mounds, northern canyons and seamount—(Chaps. 13–15).

Sampling with a Commercial Trawl

Trawling Operations

We used the same commercial bottom trawl—Lofoten type—in the four *Maurit* surveys: a fishing gear rigged for trawling over rough bottoms at great depths. The net had 17.70 and 5.5 m horizontal and vertical openings, respectively, and a 35-mm mesh size at the codend. The trawl was equipped with sweep lines of 250 m, steel bobbins of 14" and 32 cm in diameter, high-strength floats (240 mm in diameter)—for fishing at great depths—and oval doors of 850 kg (Fig. 1.12).

The geographical position of the hauls was recorded using the global positioning system (GPS). The hauls were monitored with acoustic systems (SIMRAD ITI and

SCANMAR) attached to the net. These devices provided information on the trawl openings, distance between doors, bottom contact and distance between the footrope and the bottom.

The area prospected with the commercial trawl in the four surveys spread along the entire coast of Mauritania, between the latitudes of Cape Blanc (20°50'N) and the Senegal border in the south (16°04'N), covering a total area of 34,500 km².

We used the swept-area method and a stratified sampling design on three latitudinal sectors—North (20°50'N–19°23'N), Centre (19°23'N–17°40'N) and South (17°40'N–16°04'N)—and six bathymetric strata (80–200, 200–400, 400–800, 800–1200, 1200–1500 and 1500–2000 m) (Table 1.1). The latitudinal sectors were based on the criteria followed for the evaluation of demersal resources by IMROP (sectors) and the stratification, on the available information on the bathymetric distribution of the faunal communities (strata). On the basis of the available bathymetry and new data acquired during the expeditions, we estimated the surface of each of the six bathymetric strata in the three geographic sectors and performed random selection for grid sampling. A 10' × 10' grid was established as the basic sampling unit.

The trawling time in the coastal zone (80–400 m) was 30 min, while that in the deep zone (400–2000 m)—to try to offset the characteristic low densities from the deep sea—as one hour. Hauls that lasted less than 15 min (in the coastal strata) or 30 min (in the deep strata) were considered invalid and not included in the statistical analysis.

We sampled 291 trawling stations between 80- and 1860-m depth, of which 283 were valid (Fig. 1.6). The trawl station data—date, geographical coordinates and depth—are presented in Annexe 1.2.

Canyons and enormous soft sediment deposits occupy large areas of the Mauritanian seabed. This prevented us from carrying out trawling and forced us to seek alternative areas. Therefore, it was not always possible to rigorously follow the sampling methodology on this slope.

Sampling on-Board and Data Treatment

At each station, all fish and benthic invertebrate species were sorted. In the case of fishes, their identification was performed on-board; the megabenthos was first split into high-range taxa and subsequently sorted to the morphospecies level (Figs. 1.12 and 1.13).

We obtained data on numerical abundance and biomass (wet weigh) for each species or morphospecies. In the case of colonial benthic taxa, numerical abundance was expressed as colony number. When the large volume of the capture made exhaustive sorting impossible, we obtained a subsample of the total catch. In this case, total abundance and biomass were estimated using a weighting coefficient.



Fig. 1.12 Pictures of the commercial Lofoten trawl gear used for demersal prospection and the fishing research activities carried out during the *Maurit* surveys: Arrival of net on-board (1), bobbin details (2), door details (3, 4), codend opening (5), catch sorting of fishes and benthic invertebrates (6), specific separation of decapods (7), taxonomic identification of fish samples (8) and biological sampling of commercial cephalopods (9) (© Ana Ramos)

Table 1.1 Distribution of the estimated surface (in km²) on the basis of the depth of the strata in the three geographical areas (North, Centre and South)

Strata	Depth (m)	North	Centre	South	Total
E	80–200	1377	2636	2808	6821
F	200–400	1048	1833	1050	3931
Coastal area		2425	4469	3858	10752
A	400–800	1537	1969	1142	4648
B	800–1200	2635	2341	1751	6727
C	1200–1500	2374	1774	1543	5691
D	1500–2000	2316	2417	1941	13349
Deep area		8862	8501	6377	23741
Total area		11287	12970	10235	34493



Fig. 1.13 Activities related to the benthos sampling: Sorting the invertebrates collected by the commercial trawl (1–3) and dredging (4, 5), sieving on deck (6–8) and taxonomic identification in the laboratory on-board (9) (© Ana Ramos)

All valid stations were treated as representative for the relevant bathymetric strata where the species or group of species were caught, assuming a constant catchability coefficient. For each haul, we calculated the swept area on the basis of the SCANMAR estimated measures (horizontal opening = 20.4 m and towing speed = 3.1 knots) and haul duration. Data for numerical abundance and weight by species and station were standardized to the sweep area and expressed by 0.1 km² because this area is close to the real surface swept during each trawling.

Megabenthos Sampling

Although the R/V *Vizconde de Eza* is devoted to the evaluation and prospecting of demersal resources, this research vessel is a suitable platform for the study of megafauna associated as bycatch to fishing trawling catches. Besides, knowing that deep-water surveys are rarely focused specifically on benthic research (Menot et al. 2010), we used the excellent opportunity offered by the *Vizconde de Eza* expeditions. Thus, the sampling of megabenthos and subsequent taxonomic identification were included as an important objective of the *Maurit* surveys (Hernández et al. 2008; Ramos et al. 2010).

We followed on-board the protocol for megabenthos sampling established to be carried out during all demersal trawling surveys in the African Atlantic and Indian oceans, from the beginning of the African surveys Program of the Spanish Institute of Oceanography.

In the four *Maurit* surveys, the scientific team of *EcoAfrik* specialists—belonging to IEO and the University of Vigo—developed the on-board benthos program, which included the later taxonomic study of the faunistic collections and data analysis of benthic invertebrates (Fig. 1.13).

Because of the particular efforts undertaken for benthos sampling during the four *Maurit* surveys, a significant part of the chapters of this monographic volume are devoted to the results on the biodiversity and assemblages of different megabenthic taxa.

Sampling with a Rock Dredge

Hard substrata—namely, rocks and boulders—cannot be sampled using an otter trawl; therefore, we collected megabenthos from the coral carbonate mounds, canyons and seamount by using a rock dredge, a specialized sampler for hard bottoms. The dredge had 0.80 m horizontal opening and 0.30 m vertical opening, and a 10-mm mesh in the collector bag (Fig. 1.11). The device was symmetric and had two leather pieces to avoid net breaking and sample loss during the hauls over rough sea bottoms. We obtained one 60-L sample, which was sieved through a

tower with 10-, 5- and 1-mm meshes. The fauna retained in each fraction was sorted to morphospecies level and then counted and weighed (Fig. 1.13).

At each station, the total catch, rocks and boulder pieces, sieved fractions, specimens and details of all living benthic invertebrates and dead fauna were photographed.

We performed 26 dredging operations on hard structures—13 along the coral barrier, 11 over the canyons in the northern area and two at Wolof’s Seamount—(Figs. 1.6 and 1.13; Annexe 1.2).

Faunistic Collections

Fish specimens of all species collected using the commercial gear and beam trawl were preserved on-board—frozen or in 4–10% formaldehyde solution—and transported to laboratories in Spain to perform species identification. Specimens have been deposited at the Marine Fauna Collection, Oceanographic Centre of Málaga (CFM-IEOMA) (see Chap. 16).

In the case of megabenthos, at each station, we fixed and preserved representative specimens for all morphospecies in 70% ethanol or 4% formaldehyde solutions for further taxonomic study. After each survey, the materials were transported to Vigo. Decapods and stomatopods were later housed in the Crustacean Collection at the Oceanographic Centre of Cádiz (CCDE-IEOCD), while cephalopods, together with a representative collection of fishes and crustaceans, were deposited at the Oceanographic Centre of Tenerife (Canary Islands; IEO).

We conserved almost 25,000 specimens during the four *Maurit* surveys, and the distribution on the basis of taxa by the Spanish research centre is listed in Table 1.2. The most important collection of benthic invertebrates, composed of around 23,000 specimens, has been deposited at the University of Vigo; since 2011, it is being studied in the framework of the *EcoAfrik* project.

Table 1.2 Number of specimens of different taxa collected during the *Maurit* surveys and deposited at different research centres of the Spanish Institute of Oceanography (IEO) and University of Vigo

Taxa/Centre	IEO Cádiz	IEO Málaga	IEO Tenerife	Univ. Vigo	Total
Fishes		681	928		1609
Crustaceans	250	92	140	2042	2524
Molluscs		17	86	391	494
Echinoderms		8	7	2841	2856
Cnidarians				8024	8024
Unidentified				9584	9584
Total	250	798	1161	22282	24491

Monograph

When we decided to publish this book, our objective was to compile, in one unique volume, the main findings of the four joint surveys carried out by the IEO and IMROP in the deep shelf and upper slope off Mauritania between 2007 and 2010.

The monograph has 17 chapters that include, in addition to this introductory chapter, a detailed description of the bathymetric, geomorphological and oceanographic features (Chaps. 2–3), followed by chapters with the findings on the biodiversity and distribution of the main demersal fishes and benthic invertebrates. We paid particular attention to outlining the main components, assemblages and habitats of the benthic realm. Thus, Chaps. 7–12 focus on the biodiversity of megabenthos and epibenthos, as a whole, and of decapods, cephalopods, hydrozoans and echinoderms that inhabit the soft bottoms. Chapters 13–15 describe and characterize the physical environment and benthic fauna of the most important hard-bottom habitats on the Mauritanian slope—the coral carbonate mounds barrier, the northern canyons and the recently discovered Wolof’s seamount—Chap. 16 is devoted to the zoological collections obtained during the *Maurit* surveys, and the last Chap. 17 is an integrate synthesis of the main results described in the previous chapters.

In Chap. 2, we have offered an unprecedented and detailed description and cartography of the bathymetry and geomorphology of the Mauritanian continental margin between 80- and 2000-m depth. On the basis of our results, it has been defined into three geomorphological provinces, Arguin, Nouakchott and Senegal River, and it has more than 70 canyons and large gullies grouped into 10 systems. Likewise, the 580-km length of the coral carbonate mounds barrier, named the Mauritanian Slide Complex, the pockmark areas and the isolated Wolof’s Seamount (about 200 m in height) have been described and mapped. Our exhaustive geophysical work provides the first and detailed cartography of the seabed, compiled in 25 maps, and it can be very useful for future habitat studies and conservation of vulnerable areas.

In Chap. 3, we have described the hydrological conditions of the Cape Verde Basin—and particularly, its eastern boundary, the Mauritania Slope Ocean—, a largely unexplored but dynamic oceanic region where fronts and currents split up and connect tropical and subtropical waters. This exhaustive description is based on the review of previous studies, analyses of historical, satellite and numerical data, and our hydrographic data collected from the Mauritanian continental slope. Coastal and offshore upwellings, high primary production and low oxygen concentrations are characteristics of the entire region and have important implications on fisheries and biodiversity.

Chapters 4–6 present the main findings with respect to demersal fishes, as a whole, and chondrichthyans and hakes, separately. Chapter 4 tackles the biodiversity and composition of the six major fish assemblages with 403 species and 139 families that constitute the demersal fish fauna of the Mauritanian deep waters. We have widely discussed the transitional character of the ichthyofauna composed of tropical and subtropical species, in addition to cosmopolitan and wide-distribution elements, as well as the observed changes in its distribution and composition, probably related to global warming and intense fishing exploitation.

In Chap. 5, besides the analysis of the biodiversity, assemblages, distribution patterns and demographic structure of elasmobranches—a group of species that play a key ecological role in the balance and dynamics of the Mauritanian deep-sea ecosystem—we present biological information on the most abundant species. Spatial patterns of abundance, average sizes, length distribution and sex ratio by bathymetric range of *Centroscymnus coelolepis*, *Centroselachus crepidater*, *Deania calcea* and *Centroscyllium fabricii* have been described, and the influence of the environment and direct and indirect fishing impacts have been extensively discussed.

Chapter 6 deals with the distribution of hakes, the most relevant fishery resource in the Mauritanian deep waters. Two species—*Merluccius polli* and *Merluccius senegalensis*—are distributed in Northwest African waters and are so far landed and managed jointly as *Merluccius* spp. We analysed the influence of different environmental variables on the distribution and abundance of these two sympatric species that, despite their co-occurrence, are ecologically different, live completely segregated on Mauritanian bottoms and show significant inter-annual variations that are probably related to climatic variability. The *Maurit*'s findings described in this Chapter could help in improving the future management of these hake species separately as two different stocks.

Chapters 7–8 analyse the distribution, composition and structure of megabenthic and epibenthic assemblages on the basis of the sampling carried out over slope soft bottoms with two demersal trawling gears—commercial and beam trawl—and two different methodological approaches—random stratified sampling procedure and bathymetric transects—. In both chapters, we have discussed the composition and biodiversity distribution patterns at latitudinal and bathymetric levels, as well as the structure of the main assemblages. In addition, we have discussed the role that the coincidence of the coral barrier and minimum oxygen zone at the same depth range plays in the faunistic discontinuity observed in the Mauritanian continental margin, which acts as a boundary between shallow and deeper benthic assemblages.

The next four Chaps. 9–12 focus on four of the most representative taxa from the Mauritanian slope megabenthos: decapods, cephalopods, hydrozoans and echinoderms. We analysed the diversity, occurrence and composition of each taxonomic group and its corresponding families. Besides, the effects of environmental variables on the diversity and structure of the assemblages have been discussed and compared to those of other previously studied marine areas.

In Chap. 9, we analysed the structure of decapod assemblages, and we particularly outlined the special role played by the reef and minimum oxygen zone, which seems to favour or negatively affect certain decapod species; we described for the first time the existence of a particular crustacean community living in a low-oxygen environment in Northwest Africa.

In Chap. 10, we have presented a checklist of 132 neritic and benthic cephalopod species that comprise the Mauritanian fauna, remarking on new geographical records and providing the first data on benthic octopod species that inhabit the deep waters of Northwest Africa. In addition, the possible role of the very abundant

ommastrephid species as a potential and important fishery resource—not currently exploited in the area—has been discussed.

Chapter 11 offers an overview of the biodiversity, distribution and abundance of the hydroid fauna in Mauritania. This chapter also includes an interesting discussion on eurybathy and particular strategies developed by different hydroid species to colonize the soft bottoms: hydrorhizal adaptations to anchor the colony to the sediment and epizoism. We also analysed the biogeographical components of the Mauritanian hydroid fauna, without endemic species and with strong affinities to the Atlantic-Mediterranean region.

In Chap. 12, the biodiversity and assemblages of echinoderms—the most important megabenthic taxa in Mauritanian deep waters—have been widely described. We analysed the specific richness, occurrence, abundance and biomass of 82 species belonging to five classes: Ophiuroidea, Asteroidea, Holothuroidea, Echinoidea and Crinoidea. Latitudinal and bathymetric patterns have also been described, being noticeable the finding of the highest densities and biomass in the southern slope, as well as the scarcity and low diversity of the group between 300 and 700 m.

Chapters 13–15 describe the environmental and faunistic characteristics of the three most important and vulnerable ecosystems found along the Mauritanian continental slope: the giant coral carbonate mounds barrier, submarine canyon systems of the Banc d'Arguin zone and the small Wolof's Seamount discovered during the *Maurit* surveys. In the three chapters, we have described and mapped the geomorphologic structures on the basis of multibeam echosounder results, and we characterized the water masses by using CTD profiles. Rock dredge samplings were used to achieve the first identification of the megabenthos living in these hard-bottom habitats, and particular attention was paid to sessile suspension-feeder fauna (cold-water corals, sponges and gorgonians, among others).

We considered it important to add a chapter (Chap. 16) on the biological reference collections because they constituted one of the main objectives of the *Maurit* scientific program and extraordinary efforts were undertaken to accomplish this objective. The 25,000 specimens of demersal fishes and benthic invertebrates—currently preserved in the IEO and University of Vigo collections—constitute the largest and most important natural archive of biodiversity of the Mauritanian deep-sea fauna.

In Chap. 17, we have summarized the main findings of the four *Maurit* surveys, providing the first integrated overview of the demersal and benthic communities that inhabit the Mauritanian deep waters. On the basis of international conventions, we identified areas of particular ecological and/or biological interest and vulnerable habitats, and presented our conclusions and recommendations concerning the interest and protective needs of the most important and vulnerable habitats identified.

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Annexes

Annexe 1.1 Characteristics of the oceanographic stations carried out with vertical CTD (SBE25) and net sensor (SBE37) in Mauritanian waters during *Maurit-0811*, *Maurit-0911* and *Maurit-1011* surveys

Survey	CTD device	Station	Date	Longitude West	Latitude North	Depth (m)
<i>Maurit-0811</i>	SBE37	6	18/11/2008	18°04'53"	20°35'48"	880
<i>Maurit-0811</i>	SBE37	7	19/11/2008	17°37'37"	20°44'40"	97
<i>Maurit-0811</i>	SBE37	8	19/11/2008	17°42'37"	20°37'29"	288
<i>Maurit-0811</i>	SBE37	9	19/11/2008	17°39'03"	20°29'25"	107
<i>Maurit-0811</i>	SBE37	10	20/11/2008	17°53'30"	20°20'50"	1006
<i>Maurit-0811</i>	SBE37	11	20/11/2008	17°36'47"	20°09'23"	110
<i>Maurit-0811</i>	SBE37	12	20/11/2008	17°48'29"	20°04'35"	1387
<i>Maurit-0811</i>	SBE37	13	21/11/2008	18°01'07"	19°55'41"	1835
<i>Maurit-0811</i>	SBE37	14	21/11/2008	17°55'33"	19°51'02"	1755
<i>Maurit-0811</i>	SBE37	15	21/11/2008	17°35'13"	19°35'15"	1727
<i>Maurit-0811</i>	SBE37	17	22/11/2008	17°15'23"	19°26'26"	1299
<i>Maurit-0811</i>	SBE37	18	22/11/2008	17°08'01"	19°24'18"	980
<i>Maurit-0811</i>	SBE37	20	23/11/2008	16°41'12"	18°21'45"	584
<i>Maurit-0811</i>	SBE37	21	23/11/2008	16°32'09"	18°08'43"	237
<i>Maurit-0811</i>	SBE37	22	23/11/2008	16°24'17"	17°58'45"	100
<i>Maurit-0811</i>	SBE37	23	24/11/2008	16°57'44"	17°59'52"	1700
<i>Maurit-0811</i>	SBE37	24	24/11/2008	16°52'42"	18°01'06"	1446
<i>Maurit-0811</i>	SBE37	25	24/11/2008	16°40'26"	17°56'07"	640
<i>Maurit-0811</i>	SBE37	26	24/11/2008	16°34'32"	17°58'21"	345
<i>Maurit-0811</i>	SBE37	27	24/11/2008	16°46'25"	17°28'07"	930
<i>Maurit-0811</i>	SBE37	28	25/11/2008	16°43'48"	17°26'29"	650
<i>Maurit-0811</i>	SBE37	29	25/11/2008	16°37'41"	17°22'55"	201
<i>Maurit-0811</i>	SBE37	30	25/11/2008	16°38'36"	17°11'35"	119
<i>Maurit-0811</i>	SBE37	31	26/11/2008	17°02'23"	17°03'04"	1640
<i>Maurit-0811</i>	SBE37	32	26/11/2008	16°57'13"	17°09'13"	1102
<i>Maurit-0811</i>	SBE37	33	26/11/2008	16°53'52"	16°58'15"	1339
<i>Maurit-0811</i>	SBE37	34	27/11/2008	17°01'07"	16°19'16"	1399
<i>Maurit-0811</i>	SBE37	35	27/11/2008	17°05'50"	16°19'31"	1634
<i>Maurit-0811</i>	SBE37	36	27/11/2008	16°58'43"	16°08'60"	672
<i>Maurit-0811</i>	SBE37	37	27/11/2008	17°08'52"	16°41'57"	1685
<i>Maurit-0811</i>	SBE37	38	28/11/2008	17°00'14"	16°31'47"	1067
<i>Maurit-0811</i>	SBE37	39	29/11/2008	16°37'14"	17°29'17"	228
<i>Maurit-0811</i>	SBE37	40	29/11/2008	16°22'60"	17°31'58"	81
<i>Maurit-0811</i>	SBE37	41	30/11/2008	16°51'20"	16°05'49"	107
<i>Maurit-0811</i>	SBE37	42	30/11/2008	16°53'01"	16°10'05"	274
<i>Maurit-0811</i>	SBE37	43	30/11/2008	16°47'08"	16°17'53"	102
<i>Maurit-0811</i>	SBE37	44	30/11/2008	16°50'01"	16°23'07"	320
<i>Maurit-0811</i>	SBE37	45	30/11/2008	16°45'28"	16°27'21"	91
<i>Maurit-0811</i>	SBE37	46	01/12/2008	16°45'35"	16°35'49"	102
<i>Maurit-0811</i>	SBE37	47	01/12/2008	16°54'20"	16°36'35"	747
<i>Maurit-0811</i>	SBE37	48	01/12/2008	16°48'23"	16°37'29"	307
<i>Maurit-0811</i>	SBE37	49	01/12/2008	16°48'07"	16°33'15"	311
<i>Maurit-0811</i>	SBE37	50	02/12/2008	16°45'08"	16°52'43"	94

(continued)

Annexe 1.1 (continued)

Survey	CTD device	Station	Date	Longitude West	Latitude North	Depth (m)
<i>Maurit-0811</i>	SBE37	51	02/12/2008	16°46'48"	16°44'31"	307
<i>Maurit-0811</i>	SBE37	52	02/12/2008	16°43'21"	17°00'55"	103
<i>Maurit-0811</i>	SBE37	53	02/12/2008	16°34'26"	17°01'25"	83
<i>Maurit-0811</i>	SBE37	54	02/12/2008	16°31'19"	17°08'44"	87
<i>Maurit-0811</i>	SBE37	55	03/12/2008	16°46'45"	17°06'06"	374
<i>Maurit-0811</i>	SBE37	56	03/12/2008	16°41'04"	17°15'20"	179
<i>Maurit-0811</i>	SBE37	57	03/12/2008	16°33'04"	17°16'40"	103
<i>Maurit-0811</i>	SBE37	58	03/12/2008	16°25'29"	17°21'43"	83
<i>Maurit-0811</i>	SBE37	59	04/12/2008	16°30'29"	17°27'42"	127
<i>Maurit-0811</i>	SBE37	60	04/12/2008	16°23'23"	17°39'19"	97
<i>Maurit-0811</i>	SBE37	61	04/12/2008	16°38'11"	17°39'25"	377
<i>Maurit-0811</i>	SBE37	62	04/12/2008	16°34'53"	17°46'56"	279
<i>Maurit-0811</i>	SBE37	63	05/12/2008	16°28'17"	18°09'13"	111
<i>Maurit-0811</i>	SBE37	64	05/12/2008	16°35'16"	18°15'41"	322
<i>Maurit-0811</i>	SBE37	65	05/12/2008	16°29'14"	18°17'21"	129
<i>Maurit-0811</i>	SBE37	66	05/12/2008	16°36'14"	18°26'47"	231
<i>Maurit-0811</i>	SBE37	67	06/12/2008	16°39'35"	18°29'02"	358
<i>Maurit-0811</i>	SBE37	71	07/12/2008	16°44'10"	18°44'54"	297
<i>Maurit-0811</i>	SBE37	72	07/12/2008	16°38'03"	18°49'50"	122
<i>Maurit-0811</i>	SBE37	73	07/12/2008	16°48'58"	18°50'25"	386
<i>Maurit-0811</i>	SBE37	74	07/12/2008	16°46'09"	18°56'13"	217
<i>Maurit-0811</i>	SBE37	75	08/12/2008	16°38'48"	18°57'13"	97
<i>Maurit-0811</i>	SBE37	76	08/12/2008	16°46'17"	19°04'38"	234
<i>Maurit-0811</i>	SBE37	77	08/12/2008	16°39'56"	19°08'17"	105
<i>Maurit-0811</i>	SBE37	78	08/12/2008	16°50'13"	19°12'04"	366
<i>Maurit-0811</i>	SBE37	79	08/12/2008	16°50'13"	19°15'38"	92
<i>Maurit-0811</i>	SBE37	80	09/12/2008	16°34'30"	17°37'55"	227
<i>Maurit-0811</i>	SBE37	81	09/12/2008	16°29'14"	17°38'31"	145
<i>Maurit-0811</i>	SBE37	82	09/12/2008	16°20'46"	17°47'48"	91
<i>Maurit-0811</i>	SBE37	83	09/12/2008	16°28'28"	17°52'50"	149
<i>Maurit-0811</i>	SBE37	84	10/12/2008	16°59'04"	18°27'26"	1557
<i>Maurit-0811</i>	SBE37	85	10/12/2008	16°44'46"	18°16'55"	1001
<i>Maurit-0811</i>	SBE37	86	10/12/2008	16°47'09"	18°09'12"	1215
<i>Maurit-0811</i>	SBE37	87	11/12/2008	16°25'38"	18°09'24"	86
<i>Maurit-0811</i>	SBE37	88	11/12/2008	16°30'11"	18°28'10"	105
<i>Maurit-0811</i>	SBE37	89	12/12/2008	16°52'13"	19°25'20"	90
<i>Maurit-0811</i>	SBE37	90	12/12/2008	17°06'23"	19°25'18"	750
<i>Maurit-0911</i>	SBE37	1	16/11/2009	16°45'59"	18°48'25"	303
<i>Maurit-0911</i>	SBE37	2	16/11/2009	16°57'11"	18°47'49"	906
<i>Maurit-0911</i>	SBE37	3	17/11/2009	16°44'53"	19°10'60"	142
<i>Maurit-0911</i>	SBE37	4	17/11/2009	16°57'03"	19°11'39"	726
<i>Maurit-0911</i>	SBE37	8	19/11/2009	17°03'59"	19°35'44"	174
<i>Maurit-0911</i>	SBE37	9	19/11/2009	17°19'28"	19°40'26"	1080
<i>Maurit-0911</i>	SBE37	10	19/11/2009	17°25'24"	19°50'08"	627
<i>Maurit-0911</i>	SBE37	11	20/11/2009	17°47'51"	19°53'38"	1428
<i>Maurit-0911</i>	SBE37	12	20/11/2009	17°43'13"	19°56'19"	1095

(continued)

Annexe 1.1 (continued)

Survey	CTD device	Station	Date	Longitude West	Latitude North	Depth (m)
<i>Maurit-0911</i>	SBE37	13	20/11/2009	n.a.	n.a.	n.a.
<i>Maurit-0911</i>	SBE37	14	20/11/2009	17°54'54"	19°58'26"	268
<i>Maurit-0911</i>	SBE37	15	22/11/2009	17°57'28"	19°59'28"	1746
<i>Maurit-0911</i>	SBE37	16	22/11/2009	17°54'29"	20°10'60"	1532
<i>Maurit-0911</i>	SBE37	17	23/11/2009	18°03'31"	20°24'31"	1236
<i>Maurit-0911</i>	SBE37	18	23/11/2009	17°56'29"	20°32'23"	712
<i>Maurit-0911</i>	SBE37	19	23/11/2009	17°48'59"	20°22'32"	672
<i>Maurit-0911</i>	SBE37	20	24/11/2009	17°56'47"	20°44'42"	975
<i>Maurit-0911</i>	SBE37	21	24/11/2009	17°58'19"	20°39'26"	778
<i>Maurit-0911</i>	SBE37	22	25/11/2009	17°41'53"	20°41'16"	352
<i>Maurit-0911</i>	SBE37	23	25/11/2009	17°36'07"	20°40'33"	87
<i>Maurit-0911</i>	SBE37	24	26/11/2009	17°47'59"	20°34'54"	390
<i>Maurit-0911</i>	SBE37	29	29/11/2009	17°32'20"	20°00'54"	88
<i>Maurit-0911</i>	SBE37	32	30/11/2009	16°52'06"	19°24'53"	86
<i>Maurit-0911</i>	SBE37	33	30/11/2009	16°52'50"	19°21'50"	92
<i>Maurit-0911</i>	SBE37	35	02/12/2009	16°47'17"	17°37'22"	982
<i>Maurit-0911</i>	SBE37	36	02/12/2009	16°45'41"	17°22'35"	650
<i>Maurit-0911</i>	SBE37	37	02/12/2009	16°39'31"	17°29'44"	358
<i>Maurit-0911</i>	SBE37	38	04/12/2009	16°58'01"	16°06'20"	422
<i>Maurit-0911</i>	SBE37	39	04/12/2009	16°47'36"	16°17'47"	111
<i>Maurit-0911</i>	SBE37	40	04/12/2009	16°46'53"	16°09'09"	97
<i>Maurit-0911</i>	SBE37	41	06/12/2009	16°50'28"	16°12'13"	125
<i>Maurit-0911</i>	SBE37	42	06/12/2009	16°46'23"	16°24'22"	108
<i>Maurit-0911</i>	SBE37	43	07/12/2009	16°59'58"	17°07'58"	1318
<i>Maurit-0911</i>	SBE37	44	07/12/2009	16°51'52"	17°13'22"	729
<i>Maurit-0911</i>	SBE37	45	09/12/2009	16°26'40"	17°48'20"	116
<i>Maurit-0911</i>	SBE37	46	09/12/2009	16°31'52"	17°36'05"	173
<i>Maurit-0911</i>	SBE37	47	09/12/2009	16°46'05"	17°17'11"	385
<i>Maurit-0911</i>	SBE37	48	09/12/2009	16°44'58"	16°55'55"	109
<i>Maurit-0911</i>	SBE37	49	10/12/2009	16°30'33"	17°48'20"	183
<i>Maurit-0911</i>	SBE37	50	10/12/2009	16°26'46"	18°01'49"	136
<i>Maurit-0911</i>	SBE37	51	10/12/2009	16°34'32"	18°05'01"	386
<i>Maurit-0911</i>	SBE37	52	12/12/2009	16°54'26"	18°27'35"	1300
<i>Maurit-0911</i>	SBE37	53	12/12/2009	16°53'32"	18°39'38"	1000
<i>Maurit-0911</i>	SBE37	54	13/12/2009	16°48'58"	19°02'21"	270
<i>Maurit-0911</i>	SBE37	55	13/12/2009	16°37'12"	18°44'26"	170
<i>Maurit-0911</i>	SBE37	56	14/12/2009	16°48'26"	19°08'55"	310
<i>Maurit-0911</i>	SBE37	57	14/12/2009	16°41'55"	19°01'34"	123
<i>Maurit-0911</i>	SBE37	58	14/12/2009	17°36'52"	20°09'46"	112
<i>Maurit-0911</i>	SBE37	59	14/12/2009	17°39'36"	20°07'36"	330
<i>Maurit-0911</i>	SBE37	60	14/12/2009	17°40'48"	20°07'04"	528
<i>Maurit-0911</i>	SBE37	61	14/12/2009	17°44'26"	20°02'16"	1090
<i>Maurit-0911</i>	SBE37	62	14/12/2009	17°50'01"	20°05'10"	1576
<i>Maurit-0911</i>	SBE37	63	14/12/2009	18°11'13"	20°45'20"	1618
<i>Maurit-0911</i>	SBE37	64	14/12/2009	18°01'44"	20°43'34"	1122
<i>Maurit-0911</i>	SBE37	65	14/12/2009	17°04'55"	16°47'42"	1508

(continued)

Annexe 1.1 (continued)

Survey	CTD device	Station	Date	Longitude West	Latitude North	Depth (m)
<i>Maurit-0911</i>	SBE37	66	14/12/2009	16°57'01"	16°48'01"	1043
<i>Maurit-0911</i>	SBE37	67	14/12/2009	16°50'37"	16°46'23"	517
<i>Maurit-0911</i>	SBE37	68	14/12/2009	16°47'36"	16°46'02"	281
<i>Maurit-0911</i>	SBE37	69	14/12/2009	16°45'08"	16°46'27"	135
<i>Maurit-0911</i>	SBE37	70	14/12/2009	16°59'19"	18°29'11"	1630
<i>Maurit-0911</i>	SBE37	71	14/12/2009	16°50'03"	18°28'37"	1026
<i>Maurit-0911</i>	SBE37	72	14/12/2009	16°42'43"	18°28'27"	574
<i>Maurit-0911</i>	SBE37	73	14/12/2009	16°38'02"	18°27'35"	306
<i>Maurit-0911</i>	SBE37	74	14/12/2009	16°32'37"	18°28'16"	155
<i>Maurit-0911</i>	SBE25	1	16/11/2009	16°47'32"	19°04'59"	295
<i>Maurit-0911</i>	SBE25	2	16/11/2009	16°44'42"	19°06'23"	185
<i>Maurit-0911</i>	SBE25	3	16/11/2009	16°42'20"	19°06'15"	151
<i>Maurit-0911</i>	SBE25	4	17/11/2009	16°56'16"	19°23'24"	877
<i>Maurit-0911</i>	SBE25	5	17/11/2009	16°55'41"	19°23'27"	107
<i>Maurit-0911</i>	SBE25	6	17/11/2009	16°54'44"	19°22'45"	630
<i>Maurit-0911</i>	SBE25	7	18/11/2009	17°13'37"	19°44'14"	540
<i>Maurit-0911</i>	SBE25	8	18/11/2009	17°11'11"	19°45'18"	105
<i>Maurit-0911</i>	SBE25	9	18/11/2009	17°09'11"	19°45'51"	264
<i>Maurit-0911</i>	SBE25	10	19/11/2009	17°30'41"	19°52'45"	156
<i>Maurit-0911</i>	SBE25	11	19/11/2009	17°29'41"	19°54'40"	276
<i>Maurit-0911</i>	SBE25	12	19/11/2009	17°29'20"	19°55'29"	578
<i>Maurit-0911</i>	SBE25	13	22/11/2009	17°40'44"	20°07'22"	1064
<i>Maurit-0911</i>	SBE25	14	22/11/2009	17°39'26"	20°07'56"	1534
<i>Maurit-0911</i>	SBE25	15	22/11/2009	17°37'28"	20°08'58"	115
<i>Maurit-0911</i>	SBE25	16	27/11/2009	17°48'22"	20°26'05"	290
<i>Maurit-0911</i>	SBE25	17	27/11/2009	17°45'52"	20°28'49"	518
<i>Maurit-0911</i>	SBE25	18	23/11/2009	17°41'04"	20°32'39"	198
<i>Maurit-0911</i>	SBE25	19	24/11/2009	17°47'04"	20°42'55"	109
<i>Maurit-0911</i>	SBE25	20	24/11/2009	17°39'33"	20°42'14"	290
<i>Maurit-0911</i>	SBE25	21	24/11/2009	17°38'26"	20°43'23"	550
<i>Maurit-0911</i>	SBE25	22	01/12/2009	16°39'51"	17°47'17"	1607
<i>Maurit-0911</i>	SBE25	23	01/12/2009	16°34'37"	17°46'57"	1192
<i>Maurit-0911</i>	SBE25	24	01/12/2009	16°28'58"	17°47'14"	348
<i>Maurit-0911</i>	SBE25	25	02/12/2009	16°39'30"	17°29'46"	524
<i>Maurit-0911</i>	SBE25	26	02/12/2009	16°36'32"	17°29'49"	1502
<i>Maurit-0911</i>	SBE25	27	02/12/2009	16°26'35"	17°30'28"	1502
<i>Maurit-0911</i>	SBE25	28	03/12/2009	16°51'19"	16°46'59"	1072
<i>Maurit-0911</i>	SBE25	29	03/12/2009	16°47'38"	16°46'60"	156
<i>Maurit-0911</i>	SBE25	30	03/12/2009	16°45'29"	16°45'52"	272
<i>Maurit-0911</i>	SBE25	33	04/12/2009	16°56'44"	16°07'37"	466
<i>Maurit-0911</i>	SBE25	34	05/12/2009	16°50'22"	16°28'34"	102
<i>Maurit-0911</i>	SBE25	35	05/12/2009	16°48'37"	16°28'31"	221
<i>Maurit-0911</i>	SBE25	36	05/12/2009	16°45'15"	16°29'06"	372
<i>Maurit-0911</i>	SBE25	37	06/12/2009	16°48'48"	17°08'27"	1507
<i>Maurit-0911</i>	SBE25	38	06/12/2009	16°46'49"	17°08'16"	1072
<i>Maurit-0911</i>	SBE25	39	06/12/2009	16°41'31"	17°09'01"	544

(continued)

Annexe 1.1 (continued)

Survey	CTD device	Station	Date	Longitude West	Latitude North	Depth (m)
<i>Maurit-0911</i>	SBE25	40	10/12/2009	16°35'11"	18°06'38"	316
<i>Maurit-0911</i>	SBE25	41	10/12/2009	16°31'58"	18°07'10"	147
<i>Maurit-0911</i>	SBE25	42	10/12/2009	16°24'09"	18°07'07"	95
<i>Maurit-0911</i>	SBE25	43	11/12/2009	16°42'34"	18°28'37"	411
<i>Maurit-0911</i>	SBE25	44	11/12/2009	16°38'05"	18°27'44"	988
<i>Maurit-0911</i>	SBE25	45	12/12/2009	16°32'35"	18°27'34"	1475
<i>Maurit-0911</i>	SBE25	46	13/12/2009	16°50'58"	18°50'32"	135
<i>Maurit-0911</i>	SBE25	47	13/12/2009	16°43'19"	18°50'41"	230
<i>Maurit-0911</i>	SBE25	48	13/12/2009	16°39'22"	18°50'43"	556
<i>Maurit-0911</i>	SBE25	130	20/11/2009	17°32'13"	19°50'08"	126
<i>Maurit-0911</i>	SBE25	140	21/11/2009	17°49'14"	20°05'14"	298
<i>Maurit-0911</i>	SBE25	150	25/11/2009	18°10'55"	20°45'44"	422
<i>Maurit-0911</i>	SBE25	160	25/11/2009	18°02'04"	20°45'04"	1504
<i>Maurit-0911</i>	SBE25	170	29/11/2009	17°34'28"	19°45'54"	994
<i>Maurit-0911</i>	SBE25	180	30/11/2009	17°19'28"	19°23'01"	440
<i>Maurit-0911</i>	SBE25	190	30/11/2009	17°09'52"	19°23'08"	118
<i>Maurit-0911</i>	SBE25	200	03/12/2009	17°05'41"	16°46'11"	247
<i>Maurit-0911</i>	SBE25	210	03/12/2009	16°56'55"	16°49'17"	1628
<i>Maurit-0911</i>	SBE25	220	04/12/2009	16°46'22"	16°11'04"	1023
<i>Maurit-0911</i>	SBE25	230	05/12/2009	16°59'11"	16°11'39"	538
<i>Maurit-0911</i>	SBE25	240	05/12/2009	17°05'10"	16°12'12"	308
<i>Maurit-0911</i>	SBE25	250	07/12/2009	16°57'58"	17°29'39"	156
<i>Maurit-0911</i>	SBE25	260	07/12/2009	16°48'44"	17°29'34"	999
<i>Maurit-0911</i>	SBE25	270	11/12/2009	16°59'56"	18°29'41"	1484
<i>Maurit-0911</i>	SBE25	280	11/12/2009	16°49'54"	18°27'49"	141
<i>Maurit-0911</i>	SBE25	290	12/12/2009	16°58'39"	18°50'26"	200
<i>Maurit-0911</i>	SBE25	300	12/12/2009	17°06'08"	18°49'60"	508
<i>Maurit-1011</i>	SBE25	1	16/11/2010	17°51'30"	20°35'29"	492
<i>Maurit-1011</i>	SBE25	2	16/11/2010	18°08'40"	20°34'53"	995
<i>Maurit-1011</i>	SBE25	3	16/11/2010	18°28'22"	20°33'47"	1495
<i>Maurit-1011</i>	SBE25	4	17/11/2010	18°35'26"	20°33'25"	2007
<i>Maurit-1011</i>	SBE25	5	18/11/2010	17°38'09"	20°20'05"	94
<i>Maurit-1011</i>	SBE25	6	18/11/2010	17°42'34"	20°17'19"	484
<i>Maurit-1011</i>	SBE25	7	18/11/2010	17°47'03"	20°14'32"	941
<i>Maurit-1011</i>	SBE25	8	19/11/2010	18°00'17"	20°06'53"	2002
<i>Maurit-1011</i>	SBE25	9	19/11/2010	17°53'22"	20°10'24"	1525
<i>Maurit-1011</i>	SBE25	10	20/11/2010	17°33'02"	20°01'55"	98
<i>Maurit-1011</i>	SBE25	11	20/11/2010	17°38'29"	20°01'50"	490
<i>Maurit-1011</i>	SBE25	12	20/11/2010	17°45'25"	19°52'07"	1553
<i>Maurit-1011</i>	SBE25	13	21/11/2010	17°52'28"	19°46'36"	1920
<i>Maurit-1011</i>	SBE25	14	21/11/2010	17°41'08"	19°57'34"	928
<i>Maurit-1011</i>	SBE25	15	23/11/2010	17°18'11"	19°51'01"	109
<i>Maurit-1011</i>	SBE25	16	23/11/2010	17°17'57"	19°48'19"	490
<i>Maurit-1011</i>	SBE25	17	23/11/2010	17°23'06"	19°46'07"	972
<i>Maurit-1011</i>	SBE25	18	23/11/2010	17°28'39"	19°40'25"	1499
<i>Maurit-1011</i>	SBE25	19	23/11/2010	17°37'37"	19°32'23"	1850

(continued)

Annexe 1.1 (continued)

Survey	CTD device	Station	Date	Longitude West	Latitude North	Depth (m)
<i>Maurit-1011</i>	SBE25	20	24/11/2010	17°00'26"	19°39'52"	97
<i>Maurit-1011</i>	SBE25	21	25/11/2010	17°04'56"	19°37'47"	528
<i>Maurit-1011</i>	SBE25	22	25/11/2010	17°09'07"	19°35'58"	964
<i>Maurit-1011</i>	SBE25	23	25/11/2010	17°19'48"	19°30'39"	1454
<i>Maurit-1011</i>	SBE25	24	26/11/2010	17°32'13"	19°56'28"	607
<i>Maurit-1011</i>	SBE25	25	26/11/2010	17°27'40"	19°53'05"	740
<i>Maurit-1011</i>	SBE25	26	26/11/2010	17°25'20"	19°52'14"	730
<i>Maurit-1011</i>	SBE25	27	26/11/2010	17°23'01"	19°51'27"	630
<i>Maurit-1011</i>	SBE25	28	26/11/2010	17°19'50"	19°48'58"	800
<i>Maurit-1011</i>	SBE25	29	26/11/2010	17°16'58"	19°46'43"	890
<i>Maurit-1011</i>	SBE25	30	28/11/2010	16°53'23"	19°13'34"	475
<i>Maurit-1011</i>	SBE25	31	28/11/2010	16°58'58"	19°10'03"	964
<i>Maurit-1011</i>	SBE25	32	29/11/2010	16°46'57"	19°17'48"	90
<i>Maurit-1011</i>	SBE25	33	29/11/2010	17°04'25"	19°06'35"	1450
<i>Maurit-1011</i>	SBE25	34	29/11/2010	17°15'17"	18°59'50"	1856
<i>Maurit-1011</i>	SBE25	35	30/11/2010	17°01'25"	19°24'10"	1111
<i>Maurit-1011</i>	SBE25	36	30/11/2010	16°45'08"	18°39'26"	990
<i>Maurit-1011</i>	SBE25	37	01/12/2010	16°20'28"	17°54'35"	80
<i>Maurit-1011</i>	SBE25	38	02/12/2010	16°37'28"	17°55'59"	496
<i>Maurit-1011</i>	SBE25	39	02/12/2010	16°46'29"	17°56'33"	1000
<i>Maurit-1011</i>	SBE25	40	02/12/2010	16°54'28"	17°57'06"	1548
<i>Maurit-1011</i>	SBE25	41	03/12/2010	16°47'43"	17°37'07"	1004
<i>Maurit-1011</i>	SBE25	42	03/12/2010	16°55'45"	17°37'08"	1500
<i>Maurit-1011</i>	SBE25	43	04/12/2010	17°13'48"	17°17'26"	2032
<i>Maurit-1011</i>	SBE25	44	04/12/2010	17°01'04"	17°18'19"	1498
<i>Maurit-1011</i>	SBE25	45	04/12/2010	16°57'11"	16°59'13"	1500
<i>Maurit-1011</i>	SBE25	46	05/12/2010	16°57'33"	16°38'04"	984
<i>Maurit-1011</i>	SBE25	47	05/12/2010	17°04'46"	16°38'15"	1497
<i>Maurit-1011</i>	SBE25	48	05/12/2010	17°15'19"	16°38'28"	1993
<i>Maurit-1011</i>	SBE25	49	06/12/2010	17°14'16"	16°22'28"	1894
<i>Maurit-1011</i>	SBE25	50	06/12/2010	17°03'02"	16°21'19"	1500
<i>Maurit-1011</i>	SBE25	51	07/12/2010	16°55'59"	16°21'08"	1000
<i>Maurit-1011</i>	SBE25	52	07/12/2010	16°47'35"	16°20'57"	114
<i>Maurit-1011</i>	SBE25	53	07/12/2010	16°50'19"	16°20'37"	485
<i>Maurit-1011</i>	SBE25	54	08/12/2010	16°55'38"	16°08'32"	723
<i>Maurit-1011</i>	SBE25	55	08/12/2010	16°44'07"	16°37'60"	85
<i>Maurit-1011</i>	SBE25	56	08/12/2010	16°52'23"	16°38'11"	465
<i>Maurit-1011</i>	SBE25	57	09/12/2010	16°51'40"	16°28'18"	540
<i>Maurit-1011</i>	SBE25	58	09/12/2010	16°50'32"	16°47'11"	505
<i>Maurit-1011</i>	SBE25	59	09/12/2010	16°50'17"	16°59'09"	1000
<i>Maurit-1011</i>	SBE25	60	09/12/2010	16°46'23"	16°59'06"	467
<i>Maurit-1011</i>	SBE25	61	09/12/2010	16°43'53"	16°59'07"	101
<i>Maurit-1011</i>	SBE25	62	10/12/2010	16°47'04"	17°09'17"	405
<i>Maurit-1011</i>	SBE25	63	10/12/2010	16°46'39"	17°08'48"	191
<i>Maurit-1011</i>	SBE25	64	10/12/2010	16°46'34"	17°08'25"	326
<i>Maurit-1011</i>	SBE25	65	10/12/2010	16°54'41"	17°18'26"	1010

(continued)

Annexe 1.1 (continued)

Survey	CTD device	Station	Date	Longitude West	Latitude North	Depth (m)
<i>Maurit-1011</i>	SBE25	66	10/12/2010	16°46'38"	17°18'46"	510
<i>Maurit-1011</i>	SBE25	67	10/12/2010	16°33'13"	17°19'20"	120
<i>Maurit-1011</i>	SBE25	68	11/12/2010	16°24'38"	17°37'14"	101
<i>Maurit-1011</i>	SBE25	69	11/12/2010	16°38'38"	17°36'46"	498
<i>Maurit-1011</i>	SBE25	70	13/12/2010	16°51'30"	18°13'18"	1465
<i>Maurit-1011</i>	SBE25	71	13/12/2010	17°02'37"	18°32'35"	1795
<i>Maurit-1011</i>	SBE25	72	14/12/2010	16°38'54"	18°18'28"	464
<i>Maurit-1011</i>	SBE25	73	14/12/2010	16°28'22"	18°20'50"	94

Annexe 1.2 Characteristics of the stations carried out with commercial and beam trawl over soft bottoms, and with rock dredge over hard structures in Mauritanian slope during the four *Maurit* surveys (n.a.: not available data, null station; in rock dredging's only start position was taken)

Survey	Gear	Station	Date	Long start	Latit start	Depth start (m)	Long turn	Latit turn	Depth turn (m)
<i>Maurit-I/07</i>	Commercial	MU001	17/11/2007	17°47'44"	20°46'60"	817	17°49'51"	20°45'54"	820
<i>Maurit-I/07</i>	Commercial	MU002	17/11/2007	17°50'30"	20°42'00"	616	17°53'04"	20°40'01"	626
<i>Maurit-I/07</i>	Commercial	MU003	17/11/2007	17°58'17"	20°48'13"	1267	17°55'60"	20°49'53"	1243
<i>Maurit-I/07</i>	Commercial	MU004	18/11/2007	18°32'26"	20°34'43"	1812	18°33'25"	20°31'49"	1824
<i>Maurit-I/07</i>	Commercial	MU005	18/11/2007	18°25'28"	20°37'23"	1400	18°26'28"	20°34'27"	1408
<i>Maurit-I/07</i>	Commercial	MU006	18/11/2007	18°13'29"	20°36'13"	1116	18°11'38"	20°38'40"	1144
<i>Maurit-I/07</i>	Commercial	MU007	19/11/2007	18°17'33"	20°45'06"	1667	18°19'14"	20°44'48"	1658
<i>Maurit-I/07</i>	Commercial	MU008	19/11/2007	18°15'52"	20°40'19"	1308	18°12'59"	20°41'10"	1308
<i>Maurit-I/07</i>	Commercial	MU009	19/11/2007	18°07'59"	20°44'44"	1412	18°05'08"	20°46'05"	1412
<i>Maurit-I/07</i>	Commercial	MU010	20/11/2007	18°11'18"	20°18'05"	1768	18°14'28"	20°18'26"	1777
<i>Maurit-I/07</i>	Commercial	MU011	20/11/2007	18°07'42"	20°24'46"	1305	18°04'53"	20°23'43"	1300
<i>Maurit-I/07</i>	Commercial	MU012	20/11/2007	18°07'24"	20°19'37"	1590	18°04'13"	20°19'05"	1569
<i>Maurit-I/07</i>	Commercial	MU013	21/11/2007	17°57'38"	20°25'35"	1006	18°00'00"	20°27'32"	997
<i>Maurit-I/07</i>	Commercial	MU014	21/11/2007	17°50'15"	20°39'01"	502	17°51'50"	20°36'18"	511
<i>Maurit-I/07</i>	Commercial	MU015	21/11/2007	17°51'47"	20°27'14"	670	17°50'04"	20°24'31"	675
<i>Maurit-I/07</i>	Commercial	MU016	22/11/2007	17°41'26"	20°10'21"	786	n.a.	n.a.	n.a.
<i>Maurit-I/07</i>	Commercial	MU017	22/11/2007	17°42'24"	20°10'22"	818	17°45'26"	20°11'25"	861
<i>Maurit-I/07</i>	Commercial	MU018	22/11/2007	17°39'16"	20°14'01"	519	17°37'16"	20°16'37"	402
<i>Maurit-I/07</i>	Commercial	MU019	22/11/2007	17°46'18"	20°05'04"	1222	17°46'09"	20°02'05"	1218
<i>Maurit-I/07</i>	Commercial	MU020	23/11/2007	17°52'03"	19°54'16"	1518	17°53'47"	19°56'49"	1538
<i>Maurit-I/07</i>	Commercial	MU021	23/11/2007	17°44'20"	19°51'02"	1453	17°46'28"	19°53'13"	1423
<i>Maurit-I/07</i>	Commercial	MU022	23/11/2007	17°31'44"	19°34'14"	1689	17°30'21"	19°31'34"	1628
<i>Maurit-I/07</i>	Commercial	MU023	24/11/2007	17°25'25"	19°50'44"	532	17°23'48"	19°50'46"	415
<i>Maurit-I/07</i>	Commercial	MU024	24/11/2007	17°23'48"	19°47'14"	900	17°26'36"	19°48'26"	926

(continued)

Annexe 1.2 (continued)

Survey	Gear	Station	Date	Long start	Latit start	Depth start (m)	Long turn	Latit turn	Depth turn (m)
<i>Maurit-I107</i>	Commercial	MU025	24/11/2007	17°28'58"	19°42'44"	1432	17°30'53"	19°44'56"	1532
<i>Maurit-I107</i>	Commercial	MU026	25/11/2007	17°12'32"	19°39'08"	744	17°14'38"	19°41'31"	744
<i>Maurit-I107</i>	Commercial	MU027	25/11/2007	17°16'39"	19°38'58"	986	17°17'39"	19°38'58"	1016
<i>Maurit-I107</i>	Commercial	MU028	25/11/2007	17°19'57"	19°25'54"	1537	17°20'04"	19°23'04"	1531
<i>Maurit-I107</i>	Commercial	MU029	25/11/2007	17°12'35"	19°23'02"	1195	17°10'26"	19°20'47"	1199
<i>Maurit-I107</i>	Commercial	MU030	26/11/2007	17°16'07"	19°18'26"	1448	17°18'15"	19°20'34"	1459
<i>Maurit-I107</i>	Commercial	MU031	26/11/2007	17°33'17"	19°25'29"	1778	17°32'11"	19°22'44"	1811
<i>Maurit-I107</i>	Commercial	MU032	26/11/2007	17°21'58"	19°14'51"	1681	17°19'52"	19°12'31"	1682
<i>Maurit-I107</i>	Commercial	MU033	27/11/2007	16°59'38"	19°15'21"	741	16°57'33"	19°13'57"	736
<i>Maurit-I107</i>	Commercial	MU034	27/11/2007	17°00'17"	19°11'03"	938	16°59'01"	19°10'16"	935
<i>Maurit-I107</i>	Commercial	MU035	27/11/2007	17°09'01"	19°08'31"	1522	17°07'05"	19°06'14"	1530
<i>Maurit-I107</i>	Commercial	MU036	27/11/2007	17°03'10"	19°02'54"	1385	17°03'45"	18°59'58"	1394
<i>Maurit-I107</i>	Commercial	MU037	29/11/2007	16°50'40"	19°02'16"	403	16°50'52"	18°59'15"	442
<i>Maurit-I107</i>	Commercial	MU038	29/11/2007	16°56'38"	18°58'40"	920	16°56'47"	18°55'35"	918
<i>Maurit-I107</i>	Commercial	MU039	29/11/2007	17°01'57"	18°51'13"	1215	17°01'47"	18°54'14"	1240
<i>Maurit-I107</i>	Commercial	MU040	29/11/2007	17°09'01"	18°55'03"	1683	17°08'25"	18°58'01"	1675
<i>Maurit-I107</i>	Commercial	MU041	30/11/2007	17°07'18"	18°48'47"	1556	17°06'41"	18°45'50"	1581
<i>Maurit-I107</i>	Commercial	MU042	30/11/2007	16°53'38"	18°32'47"	1180	16°52'56"	18°29'52"	1178
<i>Maurit-I107</i>	Commercial	MU043	30/11/2007	16°55'02"	18°24'30"	1406	16°54'04"	18°21'36"	1409
<i>Maurit-I107</i>	Commercial	MU044	01/12/2007	16°43'46"	18°30'41"	606	16°44'31"	18°33'41"	596
<i>Maurit-I107</i>	Commercial	MU045	01/12/2007	16°46'53"	18°44'11"	420	16°48'40"	18°46'41"	427
<i>Maurit-I107</i>	Commercial	MU046	01/12/2007	16°48'22"	18°33'12"	848	16°47'40"	18°30'14"	847
<i>Maurit-I107</i>	Commercial	MU047	01/12/2007	16°49'29"	18°27'30"	1000	16°48'46"	18°24'34"	1006
<i>Maurit-I107</i>	Commercial	MU048	02/12/2007	16°48'35"	18°01'53"	1239	16°47'49"	18°04'51"	1218
<i>Maurit-I107</i>	Commercial	MU049	02/12/2007	16°53'01"	18°08'33"	1546	16°52'47"	18°11'19"	1577
<i>Maurit-I107</i>	Commercial	MU050	02/12/2007	16°48'54"	17°52'46"	1054	16°49'38"	17°49'53"	1075
<i>Maurit-I107</i>	Commercial	MU051	03/12/2007	16°39'47"	17°47'32"	464	16°39'13"	17°49'51"	468

(continued)

Annexe 1.2 (continued)

Survey	Gear	Station	Date	Long start	Latit start	Depth start (m)	Long turn	Latit turn	Depth tum (m)
<i>Maurit-1107</i>	Commercial	MU052	03/12/2007	16°45'25"	17°48'50"	774	16°46'14"	17°45'54"	792
<i>Maurit-1107</i>	Commercial	MU053	03/12/2007	16°48'43"	17°44'57"	952	16°48'27"	17°48'04"	957
<i>Maurit-1107</i>	Commercial	MU054	03/12/2007	16°39'02"	17°39'49"	414	16°39'10"	17°36'58"	451
<i>Maurit-1107</i>	Commercial	MU055	04/12/2007	16°54'13"	17°26'37"	1310	16°52'49"	17°25'58"	1218
<i>Maurit-1107</i>	Commercial	MU056	04/12/2007	16°55'48"	17°19'07"	1091	16°54'26"	17°21'53"	1159
<i>Maurit-1107</i>	Commercial	MU057	04/12/2007	16°47'52"	17°11'05"	430	16°47'20"	17°13'32"	406
<i>Maurit-1107</i>	Commercial	MU058	05/12/2007	17°07'48"	16°45'41"	1598	17°06'15"	16°48'06"	1566
<i>Maurit-1107</i>	Commercial	MU059	05/12/2007	16°59'49"	16°47'37"	1215	16°58'34"	16°50'38"	1282
<i>Maurit-1107</i>	Commercial	MU060	05/12/2007	17°06'28"	16°32'34"	1512	17°07'31"	16°29'45"	1530
<i>Maurit-1107</i>	Commercial	MU061	06/12/2007	17°08'22"	16°07'46"	1440	17°06'36"	16°10'10"	1434
<i>Maurit-1107</i>	Commercial	MU062	06/12/2007	17°04'18"	16°09'35"	1236	17°02'32"	16°12'06"	1244
<i>Maurit-1107</i>	Commercial	MU063	06/12/2007	16°55'12"	16°18'39"	848	16°54'59"	16°21'32"	798
<i>Maurit-1107</i>	Commercial	MU064	06/12/2007	16°51'44"	16°23'28"	452	16°51'01"	16°26'24"	468
<i>Maurit-1107</i>	Commercial	MU065	07/12/2007	16°56'55"	16°25'09"	1007	16°57'15"	16°22'08"	1004
<i>Maurit-1107</i>	Commercial	MU066	07/12/2007	17°00'18"	16°23'09"	1243	17°00'20"	16°26'16"	1317
<i>Maurit-1107</i>	Commercial	MU067	07/12/2007	17°04'27"	16°31'10"	1381	17°03'38"	16°34'09"	1390
<i>Maurit-1107</i>	Commercial	MU068	07/12/2007	16°59'29"	16°38'19"	1136	17°00'05"	16°41'10"	1146
<i>Maurit-1107</i>	Commercial	MU069	08/12/2007	17°06'52"	16°50'32"	1629	17°04'49"	16°52'52"	1648
<i>Maurit-1107</i>	Commercial	MU070	08/12/2007	16°48'39"	16°55'14"	755	16°48'53"	16°58'20"	801
<i>Maurit-1107</i>	Commercial	MU071	08/12/2007	16°52'54"	17°07'09"	812	16°53'27"	17°10'16"	837
<i>Maurit-1107</i>	Commercial	MU072	09/12/2007	17°02'26"	17°17'07"	1544	17°01'40"	17°16'17"	1517
<i>Maurit-1107</i>	Commercial	MU073	09/12/2007	16°58'10"	17°15'50"	1330	16°58'55"	17°18'42"	1284
<i>Maurit-1107</i>	Commercial	MU074	09/12/2007	17°03'46"	17°26'59"	1735	17°01'52"	17°29'27"	1750
<i>Maurit-1107</i>	Commercial	MU075	10/12/2007	17°00'28"	17°36'56"	1688	17°00'30"	17°39'58"	1659
<i>Maurit-1107</i>	Commercial	MU076	10/12/2007	16°55'56"	17°35'19"	1556	16°52'49"	17°34'37"	1398
<i>Maurit-1107</i>	Commercial	MU077	10/12/2007	16°53'28"	17°31'09"	1277	16°52'34"	17°33'49"	1340
<i>Maurit-1107</i>	Commercial	MU078	11/12/2007	16°40'28"	18°07'10"	842	16°41'19"	18°04'11"	850

(continued)

Annexe 1.2 (continued)

Survey	Gear	Station	Date	Long start	Latit start	Depth start (m)	Long turn	Latit turn	Depth tum (m)
<i>Maurit-1107</i>	Commercial	MU079	11/12/2007	16°36'39"	18°04'20"	554	16°36'07"	18°07'20"	576
<i>Maurit-0811</i>	Commercial	MU080	17/11/2008	16°58'29"	18°20'50"	1666	16°59'32"	18°23'34"	1680
<i>Maurit-0811</i>	Commercial	MU081	17/11/2008	16°52'43"	18°40'29"	912	16°54'34"	18°42'54"	900
<i>Maurit-0811</i>	Commercial	MU082	17/11/2008	16°59'20"	18°40'20"	1298	17°00'22"	18°41'29"	1435
<i>Maurit-0811</i>	Commercial	MU083	18/11/2008	18°19'40"	20°26'05"	1435	18°22'20"	20°27'22"	1420
<i>Maurit-0811</i>	Commercial	MU084	18/11/2008	18°27'53"	20°42'20"	1680	18°25'56"	20°44'37"	1718
<i>Maurit-0811</i>	Commercial	MU085	18/11/2008	18°04'53"	20°35'48"	898	18°02'37"	20°37'56"	862
<i>Maurit-0811</i>	Commercial	MU086	19/11/2008	17°37'37"	20°44'40"	91	17°38'19"	20°41'40"	103
<i>Maurit-0811</i>	Commercial	MU087	19/11/2008	17°42'37"	20°37'29"	271	17°44'55"	20°35'19"	305
<i>Maurit-0811</i>	Commercial	MU088	19/11/2008	17°39'03"	20°29'25"	94	17°40'35"	20°26'46"	120
<i>Maurit-0811</i>	Commercial	MU089	20/11/2008	17°53'30"	20°20'50"	1012	17°52'03"	20°18'23"	1000
<i>Maurit-0811</i>	Commercial	MU090	20/11/2008	17°36'47"	20°09'23"	110	17°36'48"	20°06'30"	110
<i>Maurit-0811</i>	Commercial	MU091	20/11/2008	17°48'29"	20°04'35"	1418	17°48'08"	20°01'39"	1355
<i>Maurit-0811</i>	Commercial	MU092	21/11/2008	18°01'07"	19°55'41"	1808	18°02'01"	19°53'05"	1862
<i>Maurit-0811</i>	Commercial	MU093	21/11/2008	17°55'33"	19°51'02"	1740	17°53'00"	19°49'33"	1769
<i>Maurit-0811</i>	Commercial	MU094	21/11/2008	17°35'13"	19°35'15"	1720	17°33'37"	19°32'43"	1734
<i>Maurit-0811</i>	Commercial	MU095	22/11/2008	17°24'34"	19°39'02"	1393	17°22'42"	19°36'39"	1302
<i>Maurit-0811</i>	Commercial	MU096	22/11/2008	17°15'23"	19°26'26"	1297	17°15'55"	19°23'33"	1300
<i>Maurit-0811</i>	Commercial	MU097	22/11/2008	17°08'01"	19°24'18"	896	17°06'04"	19°21'57"	1064
<i>Maurit-0811</i>	Commercial	MU098	22/11/2008	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>Maurit-0811</i>	Commercial	MU099	23/11/2008	16°41'12"	18°21'45"	569	16°40'20"	18°18'55"	598
<i>Maurit-0811</i>	Commercial	MU100	23/11/2008	16°32'09"	18°08'43"	236	16°31'34"	18°05'23"	238
<i>Maurit-0811</i>	Commercial	MU101	23/11/2008	16°24'17"	17°58'45"	104	16°23'27"	17°55'53"	96
<i>Maurit-0811</i>	Commercial	MU102	24/11/2008	16°57'44"	17°59'52"	1700	n.a.	n.a.	n.a.
<i>Maurit-0811</i>	Commercial	MU103	24/11/2008	16°52'42"	18°01'06"	1422	16°52'34"	18°03'53"	1470
<i>Maurit-0811</i>	Commercial	MU104	24/11/2008	16°40'26"	17°56'07"	652	16°38'56"	17°58'49"	627
<i>Maurit-0811</i>	Commercial	MU105	24/11/2008	16°34'32"	17°58'21"	343	16°35'19"	17°55'27"	346

(continued)

Annexe 1.2 (continued)

Survey	Gear	Station	Date	Long start	Latit start	Depth start (m)	Long turn	Latit turn	Depth tum (m)
<i>Maurit-0811</i>	Commercial	MU106	25/11/2008	16°46'25"	17°28'07"	850	16°48'58"	17°29'58"	1010
<i>Maurit-0811</i>	Commercial	MU107	25/11/2008	16°43'48"	17°26'29"	640	16°43'05"	17°29'19"	660
<i>Maurit-0811</i>	Commercial	MU108	25/11/2008	16°37'41"	17°22'55"	200	16°39'13"	17°20'16"	202
<i>Maurit-0811</i>	Commercial	MU109	25/11/2008	16°38'36"	17°11'35"	120	16°39'32"	17°09'26"	117
<i>Maurit-0811</i>	Commercial	MU110	26/11/2008	17°02'23"	17°03'04"	1644	17°01'07"	17°00'32"	1635
<i>Maurit-0811</i>	Commercial	MU111	26/11/2008	16°57'13"	17°09'13"	1107	16°56'13"	17°06'17"	1096
<i>Maurit-0811</i>	Commercial	MU112	26/11/2008	16°53'52"	16°58'15"	1331	16°54'58"	16°53'20"	1347
<i>Maurit-0811</i>	Commercial	MU113	27/11/2008	17°01'07"	16°19'16"	1322	17°03'26"	16°21'14"	1475
<i>Maurit-0811</i>	Commercial	MU114	27/11/2008	17°05'50"	16°19'31"	1590	17°06'53"	16°16'34"	1677
<i>Maurit-0811</i>	Commercial	MU115	27/11/2008	16°58'43"	16°08'60"	651	17°00'33"	16°06'36"	693
<i>Maurit-0811</i>	Commercial	MU116	28/11/2008	17°08'52"	16°41'57"	1685	17°10'14"	16°44'51"	1680
<i>Maurit-0811</i>	Commercial	MU117	28/11/2008	17°00'14"	16°31'47"	1124	16°58'47"	16°29'09"	1010
<i>Maurit-0811</i>	Commercial	MU118	29/11/2008	16°37'14"	17°29'17"	231	16°36'04"	17°32'06"	224
<i>Maurit-0811</i>	Commercial	MU119	29/11/2008	16°23'00"	17°31'58"	82	16°21'47"	17°34'58"	80
<i>Maurit-0811</i>	Commercial	MU120	30/11/2008	16°51'20"	16°05'49"	109	16°49'32"	16°08'23"	105
<i>Maurit-0811</i>	Commercial	MU121	30/11/2008	16°53'01"	16°10'05"	274	16°54'43"	16°08'48"	400
<i>Maurit-0811</i>	Commercial	MU122	30/11/2008	16°47'08"	16°17'53"	107	16°45'47"	16°20'35"	97
<i>Maurit-0811</i>	Commercial	MU123	30/11/2008	16°50'01"	16°23'07"	278	16°50'26"	16°26'08"	362
<i>Maurit-0811</i>	Commercial	MU124	30/11/2008	16°45'28"	16°27'21"	97	16°43'35"	16°29'43"	85
<i>Maurit-0811</i>	Commercial	MU125	01/12/2008	16°45'35"	16°35'49"	103	16°44'29"	16°38'39"	101
<i>Maurit-0811</i>	Commercial	MU126	01/12/2008	16°54'20"	16°36'35"	668	16°54'26"	16°39'42"	826
<i>Maurit-0811</i>	Commercial	MU127	01/12/2008	16°48'23"	16°37'29"	260	16°48'28"	16°34'28"	353
<i>Maurit-0811</i>	Commercial	MU128	01/12/2008	16°48'07"	16°33'15"	218	16°48'27"	16°31'09"	404
<i>Maurit-0811</i>	Commercial	MU129	02/12/2008	16°45'08"	16°52'43"	95	16°44'25"	16°53'53"	93
<i>Maurit-0811</i>	Commercial	MU130	02/12/2008	16°46'48"	16°44'31"	252	16°47'01"	16°47'12"	362
<i>Maurit-0811</i>	Commercial	MU131	02/12/2008	16°43'21"	17°00'55"	102	16°41'50"	17°03'33"	104
<i>Maurit-0811</i>	Commercial	MU132	02/12/2008	16°34'26"	17°01'25"	83	16°33'01"	17°04'04"	82

(continued)

Annexe 1.2 (continued)

Survey	Gear	Station	Date	Long start	Latit start	Depth start (m)	Long turn	Latit turn	Depth tum (m)
<i>Maurit-0811</i>	Commercial	MU133	02/12/2008	16°31'19"	17°08'44"	87	16°29'49"	17°11'31"	87
<i>Maurit-0811</i>	Commercial	MU134	03/12/2008	16°46'45"	17°06'06"	311	16°47'13"	17°03'10"	436
<i>Maurit-0811</i>	Commercial	MU135	03/12/2008	16°41'04"	17°15'20"	185	16°39'07"	17°17'38"	173
<i>Maurit-0811</i>	Commercial	MU136	03/12/2008	16°33'04"	17°16'40"	103	16°32'06"	17°19'34"	112
<i>Maurit-0811</i>	Commercial	MU137	03/12/2008	16°25'29"	17°21'43"	81	16°25'00"	17°24'47"	84
<i>Maurit-0811</i>	Commercial	MU138	04/12/2008	16°30'29"	17°27'42"	123	16°30'12"	17°30'44"	130
<i>Maurit-0811</i>	Commercial	MU139	04/12/2008	16°23'23"	17°39'19"	96	16°23'20"	17°42'25"	97
<i>Maurit-0811</i>	Commercial	MU140	04/12/2008	16°38'11"	17°39'25"	376	16°38'00"	17°42'28"	377
<i>Maurit-0811</i>	Commercial	MU141	04/12/2008	16°34'53"	17°46'56"	280	16°34'16"	17°49'52"	277
<i>Maurit-0811</i>	Commercial	MU142	05/12/2008	16°28'17"	18°09'13"	109	16°28'34"	18°12'29"	112
<i>Maurit-0811</i>	Commercial	MU143	05/12/2008	16°35'16"	18°15'41"	322	16°36'34"	18°18'29"	n.a.
<i>Maurit-0811</i>	Commercial	MU144	05/12/2008	16°29'14"	18°17'21"	119	16°29'12"	18°20'19"	138
<i>Maurit-0811</i>	Commercial	MU145	05/12/2008	16°36'14"	18°26'47"	232	16°36'42"	18°29'45"	230
<i>Maurit-0811</i>	Commercial	MU146	06/12/1902	16°39'35"	18°29'02"	356	16°39'35"	18°32'00"	360
<i>Maurit-0811</i>	Commercial	MU147	06/12/2008	16°34'31"	18°41'01"	134	16°33'14"	18°38'04"	139
<i>Maurit-0811</i>	Commercial	MU148	06/12/2008	16°36'28"	18°42'02"	215	16°38'29"	18°39'56"	245
<i>Maurit-0811</i>	Commercial	MU149	06/12/2008	16°30'21"	18°47'59"	93	16°30'26"	18°51'05"	146
<i>Maurit-0811</i>	Commercial	MU150	07/12/2008	16°44'10"	18°44'54"	292	16°42'42"	18°42'20"	341
<i>Maurit-0811</i>	Commercial	MU151	07/12/2008	16°38'03"	18°49'50"	110	16°39'59"	18°52'17"	134
<i>Maurit-0811</i>	Commercial	MU152	07/12/2008	16°48'58"	18°50'25"	381	16°49'03"	18°53'35"	316
<i>Maurit-0811</i>	Commercial	MU153	07/12/2008	16°46'09"	18°56'13"	216	16°47'24"	18°58'56"	218
<i>Maurit-0811</i>	Commercial	MU154	08/12/2008	16°38'48"	18°57'13"	92	16°39'13"	19°00'10"	102
<i>Maurit-0811</i>	Commercial	MU155	08/12/2008	16°46'17"	19°04'38"	210	16°48'58"	19°03'18"	257
<i>Maurit-0811</i>	Commercial	MU156	08/12/2008	16°39'56"	19°08'17"	107	16°39'40"	19°11'17"	102
<i>Maurit-0811</i>	Commercial	MU157	08/12/2008	16°50'13"	19°12'04"	278	16°49'40"	19°14'27"	454
<i>Maurit-0811</i>	Commercial	MU158	08/12/2008	16°43'32"	19°15'38"	80	16°42'10"	19°12'56"	98
<i>Maurit-0811</i>	Commercial	MU159	09/12/2008	16°34'30"	17°37'55"	224	16°34'24"	17°41'01"	229

(continued)

Annexe 1.2 (continued)

Survey	Gear	Station	Date	Long start	Latit start	Depth start (m)	Long turn	Latit turn	Depth tum (m)
<i>Maurit-0811</i>	Commercial	MU160	09/12/2008	16°29'14"	17°38'31"	143	16°29'07"	17°41'17"	147
<i>Maurit-0811</i>	Commercial	MU161	09/12/2008	16°20'46"	17°47'48"	89	16°21'16"	17°50'57"	92
<i>Maurit-0811</i>	Commercial	MU162	09/12/2008	16°28'28"	17°52'50"	148	16°28'31"	17°55'53"	149
<i>Maurit-0811</i>	Commercial	MU163	10/12/2008	16°59'04"	18°27'26"	1518	16°58'15"	18°30'14"	1516
<i>Maurit-0811</i>	Commercial	MU164	10/12/2008	16°44'46"	18°16'55"	998	16°43'19"	18°14'24"	1004
<i>Maurit-0811</i>	Commercial	MU165	10/12/2008	16°47'09"	18°09'12"	1214	16°47'20"	18°06'10"	1216
<i>Maurit-0811</i>	Commercial	MU166	11/12/2008	16°25'38"	18°09'24"	87	16°25'32"	18°12'19"	85
<i>Maurit-0811</i>	Commercial	MU167	11/12/2008	16°30'11"	18°28'10"	101	16°30'27"	18°31'12"	108
<i>Maurit-0811</i>	Commercial	MU168	12/12/2008	16°52'13"	19°25'20"	87	16°53'28"	19°23'20"	92
<i>Maurit-0811</i>	Commercial	MU169	12/12/2008	17°06'23"	19°25'18"	776	17°07'12"	19°28'07"	724
<i>Maurit-0811</i>	Commercial	MU170	12/12/2008	16°57'20"	19°30'49"	102	16°57'47"	19°33'55"	92
<i>Maurit-0811</i>	Commercial	MU171	12/12/2008	16°59'05"	19°35'19"	105	16°58'55"	19°38'25"	100
<i>Maurit-0811</i>	Commercial	MU172	13/12/2008	17°06'17"	19°38'55"	240	17°05'09"	19°38'41"	282
<i>Maurit-0811</i>	Commercial	MU173	13/12/2008	17°11'02"	19°44'50"	314	17°12'22"	19°45'24"	540
<i>Maurit-0811</i>	Commercial	MU174	13/12/2008	17°13'22"	19°50'01"	85	17°15'46"	19°52'17"	84
<i>Maurit-0811</i>	Commercial	MU175	13/12/2008	17°18'26"	19°47'30"	618	17°20'32"	19°48'07"	850
<i>Maurit-0811</i>	Commercial	MU176	13/12/2008	17°02'30"	18°37'48"	1590	17°04'40"	18°40'15"	1655
<i>Maurit-0811</i>	Commercial	MU177	14/12/2008	16°52'00"	18°48'41"	584	16°51'59"	18°51'44"	580
<i>Maurit-0811</i>	Commercial	MU178	14/12/2008	16°57'13"	18°59'55"	968	16°57'29"	19°02'55"	969
<i>Maurit-0911</i>	Commercial	MU179	16/11/2009	16°45'59"	18°48'25"	303	16°45'23"	18°46'46"	304
<i>Maurit-0911</i>	Commercial	MU180	16/11/2009	16°57'11"	18°47'49"	906	16°57'22"	18°50'56"	919
<i>Maurit-0911</i>	Commercial	MU181	17/11/2009	16°44'53"	19°11'00"	142	16°45'50"	19°12'27"	148
<i>Maurit-0911</i>	Commercial	MU182	17/11/2009	16°57'03"	19°11'39"	726	16°59'52"	19°12'40"	726
<i>Maurit-0911</i>	Commercial	MU183	18/11/2009	17°04'53"	19°40'41"	138	17°03'38"	19°39'27"	177
<i>Maurit-0911</i>	Commercial	MU184	18/11/2009	17°01'19"	19°29'44"	213	17°00'43"	19°28'06"	202
<i>Maurit-0911</i>	Commercial	MU185	18/11/2009	17°10'47"	19°24'46"	1052	17°11'41"	19°27'45"	1060
<i>Maurit-0911</i>	Commercial	MU186	19/11/2009	19°03'59"	19°35'44"	174	17°03'19"	19°34'06"	174

(continued)

Annexe 1.2 (continued)

Survey	Gear	Station	Date	Long start	Latit start	Depth start (m)	Long turn	Latit turn	Depth tum (m)
<i>Maurit-0911</i>	Commercial	MU187	19/11/2009	17°19'28"	19°40'26"	1080	17°20'41"	19°43'11"	1235
<i>Maurit-0911</i>	Commercial	MU188	19/11/2009	17°25'24"	19°50'08"	627	17°22'43"	19°50'05"	627
<i>Maurit-0911</i>	Commercial	MU189	20/11/2009	17°47'51"	19°53'38"	1428	17°50'29"	19°55'19"	1436
<i>Maurit-0911</i>	Commercial	MU190	20/11/2009	17°43'13"	19°56'19"	1095	17°42'16"	19°54'40"	1173
<i>Maurit-0911</i>	Commercial	MU191	20/11/2009	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>Maurit-0911</i>	Commercial	MU192	20/11/2009	17°57'28"	19°59'28"	268	17°59'07"	19°57'04"	268
<i>Maurit-0911</i>	Commercial	MU193	22/11/2009	17°57'28"	19°59'28"	1746	17°59'07"	19°59'01"	1749
<i>Maurit-0911</i>	Commercial	MU194	22/11/2009	17°54'29"	20°11'00"	1532	17°51'54"	20°09'33"	1575
<i>Maurit-0911</i>	Commercial	MU195	23/11/2009	18°03'31"	20°24'31"	1236	18°06'10"	20°26'10"	1214
<i>Maurit-0911</i>	Commercial	MU196	23/11/2009	17°56'29"	20°32'23"	712	17°54'42"	20°29'53"	719
<i>Maurit-0911</i>	Commercial	MU197	23/11/2009	17°48'59"	20°22'32"	672	17°46'37"	20°19'35"	678
<i>Maurit-0911</i>	Commercial	MU198	24/11/2009	17°56'47"	20°42'48"	975	17°58'19"	20°39'26"	984
<i>Maurit-0911</i>	Commercial	MU199	24/11/2009	17°58'19"	20°39'26"	778	18°00'10"	20°36'34"	774
<i>Maurit-0911</i>	Commercial	MU200	25/11/2009	17°41'53"	20°41'16"	352	17°40'27"	20°42'16"	334
<i>Maurit-0911</i>	Commercial	MU201	25/11/2009	17°36'07"	20°40'33"	87	17°36'17"	20°38'49"	87
<i>Maurit-0911</i>	Commercial	MU202	26/11/2009	17°47'59"	20°34'54"	390	17°47'55"	20°36'11"	398
<i>Maurit-0911</i>	Commercial	MU203	26/11/2009	17°44'02"	20°36'56"	298	17°42'58"	20°38'16"	294
<i>Maurit-0911</i>	Commercial	MU204	26/11/2009	17°39'26"	20°37'53"	155	17°39'01"	20°39'35"	145
<i>Maurit-0911</i>	Commercial	MU205	27/11/2009	17°33'28"	20°33'56"	89	17°36'54"	20°32'22"	93
<i>Maurit-0911</i>	Commercial	MU206	28/11/2009	17°45'13"	20°26'24"	362	17°44'16"	20°24'56"	364
<i>Maurit-0911</i>	Commercial	MU207	29/11/2009	17°32'20"	20°00'54"	88	17°33'48"	19°59'52"	117
<i>Maurit-0911</i>	Commercial	MU208	29/11/2009	17°32'25"	20°02'03"	96	17°31'32"	20°00'38"	79
<i>Maurit-0911</i>	Commercial	MU209	29/11/2009	17°28'59"	19°57'01"	115	17°29'02"	19°55'23"	150
<i>Maurit-0911</i>	Commercial	MU210	30/11/2009	16°52'06"	19°24'53"	86	16°52'25"	19°23'10"	90
<i>Maurit-0911</i>	Commercial	MU211	30/11/2009	16°52'50"	19°21'50"	92	16°52'35"	19°21'18"	109
<i>Maurit-0911</i>	Commercial	MU212	30/11/2009	16°54'08"	19°19'55"	163	16°56'04"	19°18'19"	200
<i>Maurit-0911</i>	Commercial	MU213	02/12/2009	16°47'17"	17°37'22"	982	16°48'28"	17°40'08"	986

(continued)

Annexe 1.2 (continued)

Survey	Gear	Station	Date	Long start	Latit start	Depth start (m)	Long turn	Latit turn	Depth turn (m)
<i>Maurit-0911</i>	Commercial	MU214	02/11/2009	16°45'41"	17°22'35"	650	16°44'02"	17°24'29"	588
<i>Maurit-0911</i>	Commercial	MU215	02/12/2009	16°39'31"	17°29'44"	358	16°40'10"	17°28'06"	364
<i>Maurit-0911</i>	Commercial	MU216	16/06/2009	16°58'01"	16°06'20"	422	16°55'60"	16°08'07"	422
<i>Maurit-0911</i>	Commercial	MU217	04/12/2009	16°47'36"	16°17'47"	111	16°48'17"	16°14'11"	113
<i>Maurit-0911</i>	Commercial	MU218	04/12/2009	16°46'53"	16°09'09"	97	16°46'29"	16°10'50"	94
<i>Maurit-0911</i>	Commercial	MU219	06/12/2009	16°50'28"	16°12'13"	125	16°50'01"	16°13'35"	129
<i>Maurit-0911</i>	Commercial	MU220	06/12/2009	16°46'23"	16°24'22"	108	16°45'22"	16°25'46"	100
<i>Maurit-0911</i>	Commercial	MU221	07/12/2009	16°59'58"	17°07'58"	1318	16°59'54"	17°05'01"	1384
<i>Maurit-0911</i>	Commercial	MU222	07/12/2009	16°51'52"	17°13'22"	729	16°51'04"	17°16'16"	723
<i>Maurit-0911</i>	Commercial	MU223	09/12/2009	16°26'40"	17°48'20"	116	16°26'55"	17°46'46"	117
<i>Maurit-0911</i>	Commercial	MU224	09/12/2009	16°31'52"	17°36'05"	173	16°32'23"	17°34'40"	177
<i>Maurit-0911</i>	Commercial	MU225	09/12/2009	16°46'05"	17°17'11"	385	16°46'35"	17°15'47"	397
<i>Maurit-0911</i>	Commercial	MU226	09/12/2009	16°44'58"	16°55'55"	109	16°45'16"	16°57'43"	107
<i>Maurit-0911</i>	Commercial	MU227	10/12/2009	16°30'33"	17°48'20"	183	16°30'32"	17°50'10"	181
<i>Maurit-0911</i>	Commercial	MU228	10/12/2009	16°28'12"	18°01'06"	136	16°26'47"	18°01'47"	172
<i>Maurit-0911</i>	Commercial	MU229	10/12/2009	16°34'32"	18°05'01"	386	16°34'35"	18°06'31"	391
<i>Maurit-0911</i>	Commercial	MU230	12/12/2009	16°54'26"	18°27'35"	1312	16°53'28"	18°27'43"	1306
<i>Maurit-0911</i>	Commercial	MU231	12/12/2009	16°53'32"	18°39'38"	1003	16°52'02"	18°36'48"	1003
<i>Maurit-0911</i>	Commercial	MU232	13/12/2009	16°48'58"	19°02'21"	268	16°48'45"	19°00'20"	268
<i>Maurit-0911</i>	Commercial	MU233	13/12/2009	16°37'12"	18°44'26"	165	16°38'48"	18°43'50"	189
<i>Maurit-0911</i>	Commercial	MU234	14/12/2009	16°48'26"	19°08'55"	286	16°48'08"	19°07'28"	286
<i>Maurit-1011</i>	Commercial	MU235	14/12/2009	16°41'55"	19°01'34"	123	16°42'04"	19°00'00"	123
<i>Maurit-1011</i>	Commercial	MU236	16/11/2010	17°53'36"	20°39'40"	628	17°50'50"	20°41'43"	610
<i>Maurit-1011</i>	Commercial	MU237	16/11/2010	18°12'44"	20°40'59"	1298	18°15'59"	20°40'14"	1298
<i>Maurit-1011</i>	Commercial	MU238	17/11/2010	18°32'60"	20°31'22"	1787	18°32'14"	20°34'03"	1772
<i>Maurit-1011</i>	Commercial	MU239	17/11/2010	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>Maurit-1011</i>	Commercial	MU240	18/11/2010	17°40'13"	20°26'46"	106	17°40'19"	20°28'30"	108

(continued)

Annexe 1.2 (continued)

Survey	Gear	Station	Date	Long start	Latit start	Depth start (m)	Long turn	Latit turn	Depth turn (m)
<i>Maurit-1011</i>	Commercial	MU241	19/11/2010	17°50'07"	20°24'40"	669	17°51'46"	20°27'44"	650
<i>Maurit-1011</i>	Commercial	MU242	19/11/2010	18°07'19"	20°24'28"	1303	18°04'26"	20°23'37"	1290
<i>Maurit-1011</i>	Commercial	MU243	20/11/2010	17°42'28"	20°10'10"	827	17°45'21"	20°11'26"	850
<i>Maurit-1011</i>	Commercial	MU244	20/11/2010	17°39'08"	20°06'53"	271	17°38'37"	20°05'10"	257
<i>Maurit-1011</i>	Commercial	MU245	20/11/2010	17°51'59"	19°54'05"	1515	17°54'16"	19°55'57"	1557
<i>Maurit-1011</i>	Commercial	MU246	21/11/2010	17°38'48"	19°48'50"	1382	17°41'41"	19°49'36"	1436
<i>Maurit-1011</i>	Commercial	MU247	21/11/2010	17°50'51"	19°49'50"	1700	17°53'31"	19°51'10"	1698
<i>Maurit-1011</i>	Commercial	MU248	22/11/2010	17°37'40"	19°56'07"	726	17°39'52"	19°58'04"	726
<i>Maurit-1011</i>	Commercial	MU249	22/11/2010	17°44'03"	19°51'15"	1430	17°46'01"	19°52'35"	1440
<i>Maurit-1011</i>	Commercial	MU250	22/11/2010	17°42'29"	19°43'50"	1747	17°40'08"	19°41'56"	1867
<i>Maurit-1011</i>	Commercial	MU251	24/11/2010	17°17'14"	19°50'43"	107	17°18'46"	19°51'16"	107
<i>Maurit-1011</i>	Commercial	MU252	24/11/2010	17°11'08"	19°44'36"	337	17°12'36"	19°45'03"	502
<i>Maurit-1011</i>	Commercial	MU253	24/11/2010	17°12'37"	19°39'35"	723	17°14'36"	19°41'47"	743
<i>Maurit-1011</i>	Commercial	MU254	25/11/2010	17°06'25"	19°38'52"	241	17°05'01"	19°38'37"	293
<i>Maurit-1011</i>	Commercial	MU255	25/11/2010	17°06'11"	19°27'04"	687	17°05'16"	19°24'11"	803
<i>Maurit-1011</i>	Commercial	MU256	25/11/2010	17°16'02"	19°35'00"	1160	17°18'43"	19°36'40"	1160
<i>Maurit-1011</i>	Commercial	MU257	28/11/2010	17°20'55"	19°14'13"	1652	17°19'09"	19°11'47"	1698
<i>Maurit-1011</i>	Commercial	MU258	28/11/2010	17°13'23"	19°20'42"	1293	17°14'41"	19°23'26"	1269
<i>Maurit-1011</i>	Commercial	MU259	28/11/2010	17°57'31"	19°16'50"	557	17°56'26"	19°14'43"	557
<i>Maurit-1011</i>	Commercial	MU260	29/11/2010	16°43'31"	19°12'38"	101	16°44'20"	19°14'08"	120
<i>Maurit-1011</i>	Commercial	MU261	29/11/2010	16°44'14"	19°14'26"	111	16°46'02"	19°13'19"	146
<i>Maurit-1011</i>	Commercial	MU262	29/11/2010	16°49'48"	19°12'51"	247	16°50'36"	19°14'17"	448
<i>Maurit-1011</i>	Commercial	MU263	29/11/2010	16°52'26"	19°00'43"	615	16°52'52"	18°57'50"	624
<i>Maurit-1011</i>	Commercial	MU264	30/11/2010	17°00'58"	18°53'42"	1176	17°00'58"	18°50'40"	1145
<i>Maurit-1011</i>	Commercial	MU265	01/12/2010	16°36'31"	18°05'28"	556	16°37'00"	18°02'26"	556
<i>Maurit-1011</i>	Commercial	MU266	01/12/2010	16°24'13"	17°57'46"	103	16°23'46"	17°55'56"	103
<i>Maurit-1011</i>	Commercial	MU267	02/12/2010	16°39'38"	17°58'53"	673	16°38'43"	18°01'43"	670

(continued)

Annexe 1.2 (continued)

Survey	Gear	Station	Date	Long start	Latit start	Depth start (m)	Long turn	Latit turn	Depth turn (m)
<i>Maurit-1011</i>	Commercial	MU268	03/12/2010	16°48'08"	17°48'04"	937	16°48'25"	17°44'53"	938
<i>Maurit-1011</i>	Commercial	MU269	03/12/2010	17°00'20"	17°36'36"	1677	17°00'19"	17°33'46"	1717
<i>Maurit-1011</i>	Commercial	MU270	04/12/2010	17°02'18"	17°16'57"	1547	17°00'58"	17°18'43"	1476
<i>Maurit-1011</i>	Commercial	MU271	04/12/2010	16°57'28"	17°09'52"	1114	16°56'28"	17°06'59"	1105
<i>Maurit-1011</i>	Commercial	MU272	05/12/2010	17°04'11"	16°30'49"	1361	17°03'07"	16°34'30"	1329
<i>Maurit-1011</i>	Commercial	MU273	05/12/2010	17°09'16"	16°42'43"	1657	17°09'59"	16°44'23"	1656
<i>Maurit-1011</i>	Commercial	MU274	06/12/2010	17°10'08"	16°08'44"	1590	17°08'40"	16°11'14"	1599
<i>Maurit-1011</i>	Commercial	MU275	06/12/2010	17°00'32"	16°24'07"	1275	17°00'37"	16°27'04"	1214
<i>Maurit-1011</i>	Commercial	MU276	07/12/2010	16°53'25"	16°18'56"	637	16°52'41"	16°21'53"	562
<i>Maurit-1011</i>	Commercial	MU277	07/12/2010	16°47'58"	16°15'19"	112	16°47'22"	16°16'55"	110
<i>Maurit-1011</i>	Commercial	MU278	08/12/2010	16°58'44"	16°06'57"	509	16°57'27"	16°08'35"	557
<i>Maurit-1011</i>	Commercial	MU279	08/12/2010	16°48'10"	16°28'24"	170	16°47'58"	16°29'56"	170
<i>Maurit-1011</i>	Commercial	MU280	08/12/2010	16°47'49"	16°33'56"	230	16°46'27"	16°34'50"	239
<i>Maurit-1011</i>	Commercial	MU281	09/12/2010	16°45'19"	16°53'26"	100	16°45'47"	16°51'45"	106
<i>Maurit-1011</i>	Commercial	MU282	10/12/2010	16°47'49"	17°07'60"	402	16°48'09"	17°09'36"	473
<i>Maurit-1011</i>	Commercial	MU283	11/12/2010	16°31'34"	17°08'40"	92	16°30'32"	17°10'10"	91
<i>Maurit-1011</i>	Commercial	MU284	11/12/2010	16°38'31"	17°21'26"	207	16°37'39"	17°23'00"	203
<i>Maurit-1011</i>	Commercial	MU285	11/12/2010	16°30'34"	17°27'50"	128	16°30'23"	17°29'38"	132
<i>Maurit-1011</i>	Commercial	MU286	12/12/2010	16°39'22"	17°46'20"	436	16°38'37"	17°49'14"	427
<i>Maurit-1011</i>	Commercial	MU287	12/12/2010	16°40'16"	18°07'11"	846	16°40'16"	18°10'14"	861
<i>Maurit-1011</i>	Commercial	MU288	13/12/2010	16°48'56"	18°01'37"	1258	16°47'53"	18°04'20"	1220
<i>Maurit-1011</i>	Commercial	MU289	13/12/2010	16°58'18"	18°27'05"	1560	16°59'05"	18°29'57"	1572
<i>Maurit-1011</i>	Commercial	MU290	14/12/2010	16°35'23"	18°16'53"	311	16°35'35"	18°18'44"	311
<i>Maurit-1011</i>	Commercial	MU291	14/12/2010	16°29'17"	18°26'32"	106	16°31'18"	18°26'22"	137
<i>Maurit-0911</i>	Beam trawl	MUBV01	21/11/2009	17°36'52"	20°09'46"	112	17°36'51"	20°10'06"	112
<i>Maurit-0911</i>	Beam trawl	MUBV02	21/11/2009	17°39'36"	20°07'36"	318	17°39'42"	20°07'47"	330
<i>Maurit-0911</i>	Beam trawl	MUBV03	21/11/2009	17°40'48"	20°07'04"	528	17°40'54"	20°07'18"	538

(continued)

Annexe 1.2 (continued)

Survey	Gear	Station	Date	Long start	Latit start	Depth start (m)	Long turn	Latit turn	Depth turn (m)
<i>Maurit-0911</i>	Beam trawl	MUBV04	21/11/2009	17°44'26"	20°02'16"	1062	17°44'36"	20°02'29"	1090
<i>Maurit-0911</i>	Beam trawl	MUBV05	21/11/2009	17°50'01"	20°05'10"	1536	17°49'60"	20°05'24"	1576
<i>Maurit-0911</i>	Beam trawl	MUBV06	25/11/2009	18°11'13"	20°45'20"	1588	18°11'05"	20°45'34"	1618
<i>Maurit-0911</i>	Beam trawl	MUBV07	25/11/2009	18°01'44"	20°43'34"	1092	18°01'38"	20°43'50"	1122
<i>Maurit-0911</i>	Beam trawl	MUBV08	26/11/2009	17°38'47"	20°44'50"	174	17°38'37"	20°45'03"	168
<i>Maurit-0911</i>	Beam trawl	MUBV09	27/11/2009	17°45'48"	20°43'34"	549	17°45'25"	20°43'43"	555
<i>Maurit-0911</i>	Beam trawl	MUBV10	27/11/2009	17°40'07"	20°44'25"	332	17°40'16"	20°44'37"	344
<i>Maurit-0911</i>	Beam trawl	MUBV11	03/12/2009	17°04'55"	16°47'42"	1517	17°05'08"	16°47'31"	1508
<i>Maurit-0911</i>	Beam trawl	MUBV12	03/12/2009	16°57'01"	16°48'01"	1025	16°56'59"	16°48'14"	1043
<i>Maurit-0911</i>	Beam trawl	MUBV13	03/12/2009	16°50'37"	16°46'23"	493	16°50'58"	16°46'31"	517
<i>Maurit-0911</i>	Beam trawl	MUBV14	03/12/2009	16°47'36"	16°46'02"	300	16°47'33"	16°45'49"	281
<i>Maurit-0911</i>	Beam trawl	MUBV15	03/12/2009	16°45'08"	16°46'27"	148	16°44'56"	16°46'39"	135
<i>Maurit-0911</i>	Beam trawl	MUBV16	11/12/2009	16°59'19"	18°29'11"	1588	16°59'35"	18°29'21"	1630
<i>Maurit-0911</i>	Beam trawl	MUBV17	11/12/2009	16°50'03"	18°28'37"	1022	16°50'01"	18°28'23"	1026
<i>Maurit-0911</i>	Beam trawl	MUBV18	11/12/2009	16°42'43"	18°28'27"	559	16°42'40"	18°28'14"	574
<i>Maurit-0911</i>	Beam trawl	MUBV19	11/12/2009	16°38'02"	18°27'35"	306	16°37'58"	18°27'22"	306
<i>Maurit-0911</i>	Beam trawl	MUBV20	12/12/2009	16°32'37"	18°28'16"	155	16°32'32"	18°28'02"	155
<i>Maurit-1011</i>	Beam trawl	MUBV21	23/11/2010	17°17'13"	19°50'36"	107	17°17'40"	19°50'41"	109
<i>Maurit-1011</i>	Beam trawl	MUBV22	23/11/2010	17°17'25"	19°49'07"	300	17°17'47"	19°49'14"	n.a.
<i>Maurit-1011</i>	Beam trawl	MUBV23	23/11/2010	17°26'12"	19°37'47"	1478	17°25'54"	19°37'33"	1473
<i>Maurit-1011</i>	Beam trawl	MUBV24	24/11/2010	17°23'47"	19°46'17"	968	17°23'16"	19°46'03"	1077
<i>Maurit-1011</i>	Beam trawl	MUBV25	24/11/2010	17°17'50"	19°48'09"	499	17°17'23"	19°47'56"	520
<i>Maurit-0911</i>	Rock dredge	MUDR01	05/12/2009	16°57'12"	16°08'24"	488	--	--	--
<i>Maurit-0911</i>	Rock dredge	MUDR02	05/12/2009	16°57'01"	16°08'50"	462	--	--	--
<i>Maurit-0911</i>	Rock dredge	MUDR03	06/12/2009	16°51'25"	16°42'22"	407	--	--	--
<i>Maurit-0911</i>	Rock dredge	MUDR04	08/12/2009	16°37'13"	17°56'22"	426	--	--	--
<i>Maurit-0911</i>	Rock dredge	MUDR05	08/12/2009	16°35'42"	18°08'43"	421	--	--	--

(continued)

Annexe 1.2 (continued)

Survey	Gear	Station	Date	Long start	Latit start	Depth start (m)	Long turn	Latit turn	Depth turn (m)
<i>Maurit-0911</i>	Rock dredge	MUDR06	10/12/2009	16°40'11"	17°40'22"	435	--	--	--
<i>Maurit-0911</i>	Rock dredge	MUDR07	12/12/2009	16°43'12"	18°35'40"	460	--	--	--
<i>Maurit-0911</i>	Rock dredge	MUDR08	13/12/2009	16°50'31"	19°07'20"	470	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR09	19/11/2010	17°40'10"	20°14'36"	525	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR10	22/11/2010	17°37'03"	19°50'01"	520	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR11	26/11/2010	17°06'52"	19°38'25"	322	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR12	26/11/2010	17°22'23"	19°52'38"	485	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR13	27/11/2010	17°29'36"	19°50'43"	935	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR14	27/11/2010	17°04'15"	19°36'53"	243	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR15	27/11/2010	17°05'47"	19°30'53"	529	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR16	27/11/2010	17°05'54"	19°30'59"	474	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR17	30/11/2010	17°01'04"	19°25'16"	468	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR18	30/11/2010	16°58'28"	19°19'20"	491	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR19	07/12/2010	16°56'50"	16°09'06"	561	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR20	07/12/2010	16°56'08"	16°08'11"	405	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR21	09/12/2010	16°51'43"	16°28'13"	522	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR22	09/12/2010	16°50'28"	16°47'30"	460	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR23	10/12/2010	16°46'38"	17°08'46"	240	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR24	10/12/2010	16°46'38"	17°08'31"	197	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR25	11/12/2010	16°49'06"	17°07'43"	435	--	--	--
<i>Maurit-1011</i>	Rock dredge	MUDR26	12/12/2010	16°41'04"	17°29'42"	441	--	--	--

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