

## Appendix 14.1 Fisheries Literature Review

### Introduction

A desktop literature review has been carried out to establish baseline conditions of the physical environment, to identify information gaps and to determine if field surveys are required to ascertain fisheries information for subsequent impact assessments. Literature, including published scientific studies and approved EIAs for projects in the vicinity of the study area, have been reviewed. Locations of previous studies which deployed fisheries surveys are shown in **Drawing No. MCL/P132/EIA/14-002**. Other literature has also been reviewed, not limited to the following:

- Fisheries Resources and Fishing Operations in Hong Kong Waters, ERM (1998); Port Survey 1996/1997 by Capture Fisheries Division of AFD (1998);
- Port Survey 2005/2006, AFCD (2006);
- Liquefied Natural Gas (LNG) Receiving Terminal and Associated Facilities – EIA report, ERM (2006);
- Detailed Site Selection Study for a Proposed Contaminated Mud Disposal Facility within the Airport East/East of Sha Chau Area. Environmental Impact Assessment and Final Site Selection Report, CEDD (2005);
- Contaminated Mud Pits EM&A Studies, CEDD (2006-2013);
- Sha Chau and Lung Kwu Chau Marine Park (SCLKCMP) Monitoring Programme (2000 – 2006);
- Black Point Gas Supply Project – EIA Study (2010);
- Hong Kong - Zhuhai - Macao Bridge: Hong Kong Boundary Crossing Facilities (HKBCF) and Hong Kong Link Road (HKLR) - Investigation Final EIA Report (2009);
- Tuen Mun – Chek Lap Kok Link (hereafter as “TMCLKL”) – Investigation EIA Report (2009) and Environmental Permits Submissions;
- Harbour Area Treatment Scheme (HATS) Stage 2A – Investigation EIA Report (2008);
- Permanent Aviation Fuel Facility for Hong Kong International Airport EIA and EM&A reports (2006);
- EIA Report for New Contaminated Mud Marine Disposal Facility at Airport East / East Sha Chau Area (2005);
- EIA Study for Construction of Lung Kwu Chau Jetty (2002);
- Northshore Lantau Development Feasibility Study, Environmental Impact Assessment: Final Report, CEDD (2000); and
- Route 10 - North Lantau to Yuen Long Highway, Investigation and Preliminary Design, EIA Final Assessment Report, HyD (1999).

The proposed land formation works and the future operation of the third runway project may affect the fisheries resources and fishing operations within the project footprint and adjacent waters. The following sections summarise the fisheries resources and activities within the study area and are based on the literature review of the Port Surveys, other fisheries related reports from AFCD and approved EIAs. It should be noted that information from the literature review referred to the situation at the time of the referenced studies. The need for verification and updated fisheries surveys has been examined to gather adequate information for subsequent fisheries impact prediction and evaluation, formulation of proposed mitigation measures and monitoring requirements according to the EIAO-TM Annex 17.

### Capture Fisheries

The estimated fisheries production in Hong Kong in 2013 was 170,129 tonnes with the value estimated at about HK\$2,338 million (AFCD, 2014).

The Port Survey conducted by AFCD in 2006 consisted of an interview programme. About 36% of the local fishing fleet accounting for all homeports (i.e. places at which local fishing vessels are based) and covering all vessel types were interviewed. During the interviews, vessel particulars (e.g. vessel length, type and homeport) were recorded and information on their fishing operations and fisheries production in Hong Kong waters were collected (AFCD, 2006).

#### Port Survey

The Port Survey 2006 provides detailed information on the Hong Kong fisheries such as adult fish production (**Drawing No. MCL/P132/EIA/14-003**), fish fry production (**Drawing No. MCL/P132/EIA/14-004**), fisheries production in terms of value (**Drawing No. MCL/P132/EIA/14-005**) and fishing activities (**Drawing No. MCL/P132/EIA/14-006**). As the territory-wide trawl ban has been imposed since 31 December 2012, information extracted from the Port Survey may not reflect the latest fisheries status in Hong Kong. Nonetheless, this information represents one of the best available information on Hong Kong fisheries until the trawl ban and at the time of this study. At the time of conducting this 3RS EIA study, many of the trawl fishermen were uncertain about their future modes of operation and might choose to remain in the fishing industry, therefore information regarding the trawlers were not excluded from the literature review to prevent underestimation of the fishing activities and productions. In Port Survey, grid cells are normally categorised into one of 6 classes (except for fish fry production), and in the following text the classes will be textually described as very low, low, moderately low, moderate, high and very high respectively.

Within HKSAR waters, the highest yields for local fisheries were concentrated at eastern and southern coasts, especially at Tap Mun, Ninepin Group and Po Toi (**Drawing No. MCL/P132/EIA/14-003**), while the western waters were comparatively less productive.

Within the study area, the level of overall fishing operations varied in different places, ranging from very low to moderate (> 0 - 400 vessels operating in the area per year) (**Drawing No. MCL/P132/EIA/14-006**). The types of fishing vessels operating in the study area included stern trawler, shrimp trawler, hang trawler, gill netter, long liner, purse seiner and sampan (**Annex 1**). The top ten groups in terms of fisheries production in Hong Kong (scad, shrimp, rabbitfish, squid, croaker, crab, mullet, sardine, seabreams and anchovy) could all be found within the study area. There was no reported fish fry fisheries production from the fishermen (**Drawing No. MCL/P132/EIA/14-004**). The western Lantau waters off Tai O have the highest adult fish production in terms of weight (**Drawing No. MCL/P132/EIA/14-003**). Places with high fisheries production in terms of value (5,000 – 10,000 HK\$/ha/year) included waters around SCLKCMP, and western Lantau waters off Tai O (**Drawing No. MCL/P132/EIA/14-005**).

Although the study area covers the North Western Water Control Zone (WCZ), North Western Supplementary WCZ, Deep Bay WCZ and Western Buffer WCZ, it is anticipated that the focal area for

capture fisheries issues would be the land formation footprint itself located at the north of existing airport island, and adjacent areas in the Brothers, SCLKCMP, western and northern Chek Lap Kok waters which may be impacted by the project. Therefore these five areas will be discussed in detail.

According to the 2006 Port Survey, within the proposed land formation footprint, the level of overall fishing operations was moderately low to moderate (50 – 400 vessels/year) (**Drawing No. MCL/P132/EIA/14-006**). The types of fishing vessels which operated over the proposed land formation footprint included shrimp trawler, hang trawler, gill netter, purse seiner and sampan. However, the numbers of each type of vessel were very low (0 - 50). The overall fisheries production in terms of weight was moderately low (100 – 200 kg/ha/year) and in terms of value was moderately low to moderate (1,000 – 5,000 HK\$/ha/year) (AFCD 2006).

Around The Brothers, the overall level of fishing operations was considered to be moderate (100 - 400 vessels/year). The types of fishing vessels which could be found in this area include stern trawler, shrimp trawler, hang trawler, gill netter, long liner, purse seiner and sampan. Capture species with reportedly moderate to very high levels of production (> 20 kg/ha/year) in this area included scad, shrimp and croaker. The overall fisheries production in terms of weight was moderate (200 - 400 kg/ha/year) and in terms of value was moderate to high (2,000 - 5,000 HK\$/ha/year) (AFCD 2006).

In and around the SCLKCMP, the overall level of fishing operation was moderate (100 - 400 vessels/year). Types of fishing vessels which operated there included shrimp trawler, hang trawler, gill netter, purse seiner and sampan. Captured species with reported moderate to very high levels of production (> 20 kg/ha/year) in this area included shrimp and croaker. The overall fisheries production in terms of weight was moderate (200-400 kg/ha/year) and in terms of value was moderate to high (2,000 - 10,000 HK\$/ha/year) (AFCD 2006).

In the western Chek Lap Kok waters, the overall level of fishing operation was moderately low (50-100 vessels/year). The types of fishing vessels reportedly operating over this area included shrimp trawler, hang trawler, gill netter and sampan. Overall fisheries production was moderately low in terms of weight (100-200 kg/ha/year) and moderately low to moderate in terms of value (1,000 – 5,000 HK\$/ha/year) (AFCD 2006).

In the northern Chek Lap Kok waters, overall fishing level operation was moderately low to moderate (50-400 vessels/year). The types of fishing vessels reportedly operating over this area included shrimp trawler, hang trawler, gill netter, purse seiner and sampan. Overall fisheries production was moderately low to moderate in terms of weight (100- 400 kg/ha/year) and moderately to high in terms of value (2,000 – 10,000 HK\$/ha/year) (AFCD 2006).

#### Sha Chau and Lung Kwu Chau Marine Park Monitoring Programme (2000 – 2006)

SCLKCMP was designated in 1996. It was influenced by the discharge from the Pearl River, hence the seawater there was of low salinity but high organic nutrient levels. Such conditions enhanced the marine biodiversity, and provided nursery ground for many marine fish and shellfish species. It was rich in fisheries resources and also served as important habitat for Chinese White Dolphins. Croakers were reportedly most abundant, and common species recorded included *Johnius belangerii*, *Sillago japonica*, *Plotosus lineatus*, *Argyrosomus japonicus*, *Acanthopagrus latus*, *Muraenesox cinereus*, *Platycephalus indicus*, *Leiognathus brevirostris*, *Takifugu oblongus* and *Terapon jarbua* (AFCD, 2013b). Out of these *Sillago japonica*, *Argyrosomus japonicus* and *Acanthopagrus latus* are species of high commercial value.

AFCD commissioned fisheries studies within the SCLKCMP using hand line and gill net/fish trap between 1999 and 2006 (Put et al., 2004 – 2006; Tsang et al. 2000 – 2003). However due to the application of different fishing methods and sampling efforts, it is not appropriate to compare the results such as abundance and yield across years in this instance. During the latest survey in 2006 using gill net, 50

species were recorded, and the five most dominant species in terms of abundance were *Thryssa hamiltonii* (anchovy), *Johnius belangerii* (croaker), *Ilisha elongata* (herring), *Gerres oyena* (silver biddy) and *Johnius amblycephalus* (bearded croaker). In terms of yield, the five most dominant species recorded from gill net surveys were *Johnius belangerii*, *Thryssa hamiltonii*, *Ilisha elongata*, *Platycephalus indicus* (bartail flathead) and *Johnius dussumieri* (sin croaker). When hand lines were employed, 29 fish species were caught. The five most dominant species in terms of abundance were *Johnius belangerii*, *Sillago japonica* (Japanese sillago), *Johnius amblycephalus*, *Arius maculatus* (spotted catfish) and *Rhynchopelates oxyrhynchus* (sharpbeak terapon). In terms of yield, the five most dominant species recorded from hand-line survey were *Johnius belangerii*, *Sillago japonica*, *Arius maculatus*, *Johnius amblycephalus* and *Otolithes ruber* (tiger-toothed croaker). Except for *Sillago japonica*, the rest of the recorded fish species are all of low or medium commercial value.

#### Contaminated Mud Pits Environmental Monitoring and Audit (2006 – 2013)

Trawl surveys were conducted as part of the CMP EM&A, and data for 2006 and 2013 were obtained for this EIA study. Survey areas in this EM&A included western Chek Lap Kok waters (TSA and TSB), SCLKCMP (TNA and TNB), and northern Chek Lap Kok waters (INA and INB). Locations of the trawl stations are shown in **Drawing No. MCL/P132/EIA/14-002**. The catch per unit effort (CPUE) and yield per unit effort (YPUE) grouped by year, season, and location are presented in **Annex B**, while the dominant species composition in terms of abundance and yield are presented in **Annex C**. Species with commercial value are defined based on the findings described in the fisheries interview survey i.e. catches which are retained and either sold to seafood market and restaurants, or to local factories for salted/preserved fish production, or as fish feed. Catches with no commercial value such as corals, *Temnopleurus toreumaticus* (sea urchin), *Philine aperta* (sand slug), *Siphonosoma* sp. (peanut worm), *Pteroeides sparmanni* (sea pen) etc. are usually thrown back into the sea by fishermen. According to the Fish Marketing Organization (2013a), the average price for fresh fish landed during 2011 – 2012 was \$30 – \$45 kg<sup>-1</sup>. Therefore species were grouped into high value species (> \$45 kg<sup>-1</sup>), medium value (\$30 - \$ 45 kg<sup>-1</sup>) and low value (< \$30 kg<sup>-1</sup>). Based on the average price of 61 species recorded between 2011 and 2012 by FMO (2013), those species recorded by the CMP EM&A had their commercial values evaluated (**Annex C**). For species which did not have prices provided by the FMO, their commercial values were estimated by an experienced fisherman who was familiar with the fish price.

For western Chek Lap Kok waters, a total of 231 demersal trawl species (including 93 fishes, 18 shrimps, 25 crabs, six mantis shrimps, one horseshoe crab, 41 gastropods, 24 bivalves, five cephalopods, nine cnidarians, five echinoderms, two barnacles, one *Echiura* species and one *Tunica* species) were recorded in wet season, while a total of 222 demersal trawl species (including 93 fishes, 16 shrimps, 23 crabs, eight mantis shrimps, 35 gastropods, 23 bivalves, four cephalopods, 10 cnidarian species, five echinoderm species, two barnacles, one polychetae, one *Echiura* species, and one *Tunica* species) were recorded during dry season. From 2006 to 2013, no obvious trend was observed in terms of the CPUE and YPUE of fish and crustacean species. Seasonal fluctuation could be observed from the data. CPUE and YPUE in most of the wet seasons were found to be higher than those in dry seasons. The survey results indicated that higher abundance and yield of fish and crustacean were caught in wet seasons than in dry seasons (see Figures 1a and 1b in **Annex B**). For species in other groups such as gastropod and echinoderm, the CPUE and YPUE showed an increasing trend from 2006 to 2013 (see Figure 2a and 2b in **Annex B**). This increasing trend was mainly due to the significant increase in CPUE and YPUE of *Turritella terebra* (sea snail) and *Scapharca subcrenata* (ark shell) (**Annex C**). In fact, over the years, the catches were dominated by species of no or low commercial values.

For SCLKCMP, a total of 211 demersal trawl species (including 83 fishes, 18 shrimps, 25 crabs, seven mantis shrimps, two horseshoe crabs, 35 gastropods, 15 bivalves, four cephalopods, 10 cnidarians, five echinoderms, two barnacle, two polychetae, one *Echiura* species and two *Sipuncula* species) were recorded during wet season from 2006 to 2013 while a total of 218 demersal trawl species (including 88 fishes, 17 shrimps, 26 crabs, six mantis shrimps, 28 gastropods, 22 bivalves, four cephalopods, 12

cnidarians, eight echinoderms, two barnacles, one polychetae, one Echiura, two Sipuncula species and one Tunica species) were recorded during dry season. From 2006 to 2013, no obvious trend was observed in terms of the CPUE and the YPUE of fish and crustacean species. CPUE and YPUE in most of the wet seasons were found to be higher than those in dry seasons. This indicated that more fish and crustacean were caught in wet seasons than in dry seasons in terms of both abundance and yield. (see Figures 1a and 1b in **Annex B**). For species in other groups such as gastropod and echinoderm, the CPUE and YPUE showed an increasing trend from 2006 to 2013 (see Figure 2a and 2b in **Annex B**). This increasing trend was also due to the significant increase in CPUE and YPUE of *Turritella terebra* (sea snail) and *Balanus* sp. (barnacle) (**Annex C**).

For northern Chek Lap Kok waters, a total of 235 demersal trawl species (including 99 fishes, 17 shrimps, 30 crabs, five mantis shrimps, 32 gastropods, 23 bivalves, five cephalopods, 12 cnidarians, six echinoderms, two barnacles, one polychetae, one Echiura species, one Sipuncula species and one Tunica species) were recorded during wet season, while a total of 225 demersal trawl species (including 102 fishes, 15 shrimps, 25 crabs, seven mantis shrimps, 31 gastropods, 19 bivalves, six cephalopods, 11 cnidarians, five echinoderms, two barnacles, one Echiura species and one Tunica species) were recorded during dry season. From 2006 to 2013, no obvious trend was observed in terms of CPUE and the YPUE of fish and crustacean species. CPUE and YPUE in most of the wet seasons were found to be higher than those in dry seasons. This showed that more fish and crustacean were caught in wet seasons than in dry seasons in terms of both abundance and yield. (see Figures 1a and 1b in **Annex B**). For species in other groups such as gastropod and echinoderm, the CPUE and YPUE showed an increasing trend from 2006 to 2013 (see Figure 2a and 2b in **Annex B**). This increasing trend was also due to the increase in CPUE and YPUE of *Turritella terebra* (sea snail) and *Balanus* sp. (barnacle) (**Annex C**).

### Culture Fisheries

As the Project is a marine base project and there is no fishpond on airport island which is the only land area to be directly affected by the project, pond fish culture is not considered in this EIA, and the culture fisheries only focus on mariculture. The predominant type of mariculture in Hong Kong is marine fish culture which involves rearing of marine fish from fry or fingerlings to marketable size in cages suspended from floating rafts usually in sheltered coastal areas. Common species under culture include green grouper, brown-spotted grouper, giant grouper, Russell's snapper, mangrove snapper, goldlined seabream, star snapper and red drum (AFCD, 2014).

Marine fish culture is protected and regulated by the Marine Fish Culture Ordinance (Cap. 353), which requires all marine fish culture activity to operate under licence in designated fish culture zones. Currently, there are 26 fish culture zones occupying a total sea area of 209 ha with some 987 licensed operators. In 2013, the production from local marine fish culture was 1,005 tonnes valued at \$94 million, constituting 6% of the local demand for live marine fish (AFCD, 2014).

There are no Fish Culture Zones (FCZs) within the project footprint or in the vicinity. Of the 26 gazetted FCZs zones in Hong Kong, only one occur within the study area (AFCD, 2014). Ma Wan FCZ is the nearest FCZ to the project footprint and is located around 13 km to the east within the Western Buffer WCZ.

Oyster farming is another type of mariculture in Hong Kong. Hong Kong's oyster farming operations occur along the intertidal mudflat of Deep Bay only, in northwestern Hong Kong and within the Deep Bay WCZ. The oyster beds and rafts between Tsim Bei Tsui and Ha Pak Nai are also the only marine culture fisheries sites inside Deep Bay WCZ. In 2013, the production was about 108 tonnes (meat only) valued at \$9 million (AFCD, 2014).

There were no oyster beds or rafts within the land formation footprint or in the vicinity. The oyster production area in Deep Bay is around 14 km north of the proposed land formation footprint.

### **Artificial Reef Deployment**

AFCD has been implementing an artificial reef (AR) project since 1996 to enhance fisheries resources and promote biodiversity in Hong Kong's marine waters (AFCD, 2013a). Artificial reefs are devices used for attracting and supporting large populations of fish, which provide complex, hard surface habitat in areas where only soft bottom seabed occurs (Wilson, 2003). There are two ARs within the study area, located at the northeastern area of the Hong Kong International Airport Approach Area (HKIAAA) of Chek Lap Kok waters and at SCLKCMP (indicative location of AR at SCLKCMP is shown in **Drawing No. MCL/P132/EIA/14-001**). However, since the AR sites in the Chek Lap Kok waters are significantly affected by the construction of the Hong Kong Boundary Crossing Facilities (HKBCF) as a result of potential suspended solids elevations that exceed the WQO at this AR, they are not considered as sites of fisheries importance and will be excluded from the impact assessment. While it is in the HZMB-HKBCF EIA report (Arup, 2009) that ARs with a total volume of not less than 10,800 m<sup>3</sup> would be provided as mitigation measure, and part of them might be deployed in the proposed Brothers Marine Park, details of the new ARs are not yet available at the time of the current EIA study and hence they will not be considered in the impact assessment also.

There are six AR deployment sites at the SCLKCMP, established with the objectives of prevention of fish trawling, as feeding stations for Chinese White Dolphins and to enhance habitat quality and marine resources (AFCD, 2013a). They comprise 24 units of ferro-cement river barges with a total volume of 4,640 m<sup>3</sup> and 42 concrete-coated container of volume 940 m<sup>3</sup> deployed in the SCLKCMP in 2000.

For the ARs deployed at SCLKCMP, the monitoring data collected under AFCD's monitoring programme between 2000 and 2006 provide some information on the fish diversity in the location (Put et al., 2005 – 2006; Tsang et al. 2000 – 2004). Fishing methods employed included gill net, hand line and traps. Throughout the monitoring period, the AR site did not exhibit significantly higher fish abundance and yield when compared to other survey sites within the Marine Park. However it was noted that after the deployment of AR in March 2000, the fish abundance at the AR site increased threefold in the following wet season as compared to 1999 before the AR was deployed (Tsang et al., 2001). Furthermore species of high commercial value (e.g. *Eleutheronema tetradactylus*) and rocky/hard habitat species (e.g. *Apogon kinesis* and *Epinephelus awoara*), which were not recorded in 1999 prior to the AR deployment, were also found at the AR site in 2000 (Tsang et al., 2001). As the seabed in that region generally consisted of soft mud, the AR might have attracted the rocky/hard habitat species to the area through provision of hard substrates and shelters.

### **Nursery and Spawning Grounds for Commercial Fisheries**

The majority of commercial fish species (e.g. *Ostorhinchus fasciatus* (cardinalfish), *Saurida* spp. (lizard fish), *Caranx* spp. (carangids), *Nemipterus japonicus* (melon coat), groupers and threadfin breams)) in Hong Kong spawn from June to August. Other species such as *Leiognathus brevirostris* (pony fish), *Johnius belangerii* (croaker), *Cynoglossus macrolepidotus* (Macau sole) and Emperor fish spawn year round. Only a few species such as *Platycephalus indicus* (flathead), *Konosirus punctatus* (gizzard shad), breams and snappers are identified to be late winter or late summer spawners which have active reproductive periods between February and April and/or between September and December (ERM 1998).

Most commercial crustaceans (e.g. *Metapenaeus affinis* (jinga shrimp), *Metapenaeopsis palmensis* (southern velvet shrimp), *Solenocera crassicornis* (coastal mud shrimp), *Metapenaeus ensis* (greasy back prawn) and *Oratosquilla oratoria* (mantis shrimp) in Hong Kong showed spawning concentrated between June and August (ERM 1998).

Surveys conducted to identify spawning seasons, habitats and nursery areas of commercially important fisheries resources identified northern Lantau waters as spawning grounds of commercial fisheries resources such as *Leiognathus brevirostris* (shortnose ponyfish), *Lateolabrax japonicus* (Japanese

seabass), *Kynosurus punctatus* (dotted gizzard shad), *Solenocera crassicornis* (coastal mud shrimp), *Metapenaeus affinis* (jinga shrimp) and *Oratosquilla oratoria* (mantis shrimp) (ERM, 1998). Of these, *Lateolabrax japonicus*, *Metapenaeus affinis* and *Oratosquilla oratoria* are recognised as species of high commercial value. The highest number of reproductive individuals was observed during May to August, while other months which had increased spawning activities included March to April, and December to January (ERM, 1998). A portion (approx. 78 ha) of the land formation footprint will encroach to the spawning grounds of commercial fisheries resources at northern Chek Lap Kok waters delineated by previous study.

However, the study area was not recognised as important nursery grounds for juvenile fish, crustaceans or molluscs (ERM 1998). The Port Survey 2006 also did not report any fish fry production for the same areas (AFCD 2006).

In western waters of Lantau (around Yi O, Peak Hill and Fan Lau), ERM (2006) reported that the average fish egg density was 1.50 egg/m<sup>3</sup> during the wet season (July to October) and 0.76 egg/m<sup>3</sup> during the dry season (November to March). The average ichthyoplankton density was 1.90 larvae/m<sup>3</sup> during the wet season and 0.21 larvae/m<sup>3</sup> during dry season. The average fish post-larvae density was 0.17 larvae/m<sup>3</sup> during wet season and 0.35 larvae/m<sup>3</sup> during the dry season. The average number of fish post-larvae families recorded was 15 during wet season and 11 during dry season. Fish larvae from 30 families were identified during wet season; during dry season up to 39 families were recorded. Dominant families included Ambassidae (glass perches), Engraulidae (anchovies), Gobiidae (gobies) and Sciaenidae (croakers) during the wet season; Engraulidae, Gobiidae, Scorpaenidae (rockfishes) and Syngnathidae (pipefishes) during the dry season. There was no observable difference between fish egg, ichthyoplankton or fish post-larvae densities of the waters of identified spawning/nursery grounds for commercial fisheries of the southern waters of Hong Kong (ERM, 1998) and those of western Lantau (ERM 2006).

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**Appendix 14.1 Annex A Common Fishing Vessels in Hong Kong**

	
<b>Plate 1 Stern Trawler *</b>	<b>Plate 2 Shrimp Trawler *</b>
	
<b>Plate 3 Pair Trawler *</b>	<b>Plate 4 Hang Trawler *</b>
	
<b>Plate 5 Sampan (Long Lining)</b>	<b>Plate 6 Sampan (Gill Netting)</b>



**Plate 7 Purse Seiner**

**Plate 8 Miscellaneous Craft**

\* indicates vessels which have been banned from operation in Hong Kong waters since 31 December 2012

### Appendix 14.1 Annex B Literature Review of CMP Trawling Survey Data from 2006-2013

Figure 1a: Catch per unit effort (CPUE) of fish and crustacean

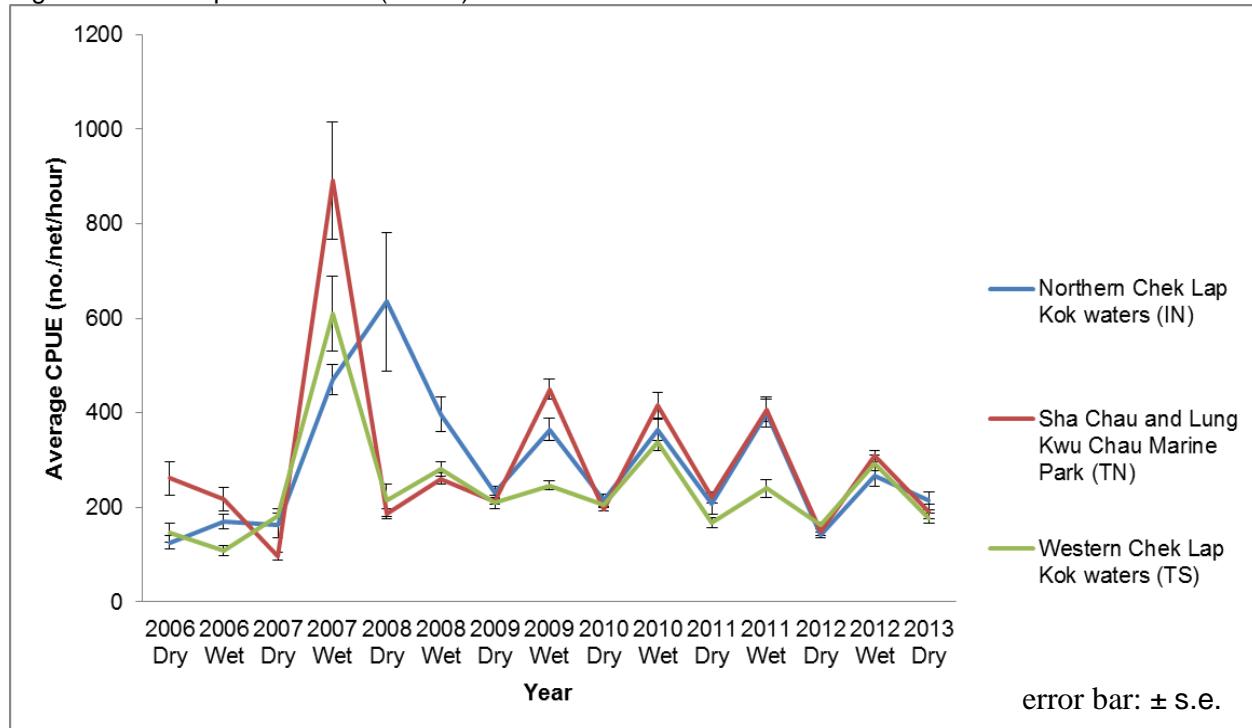
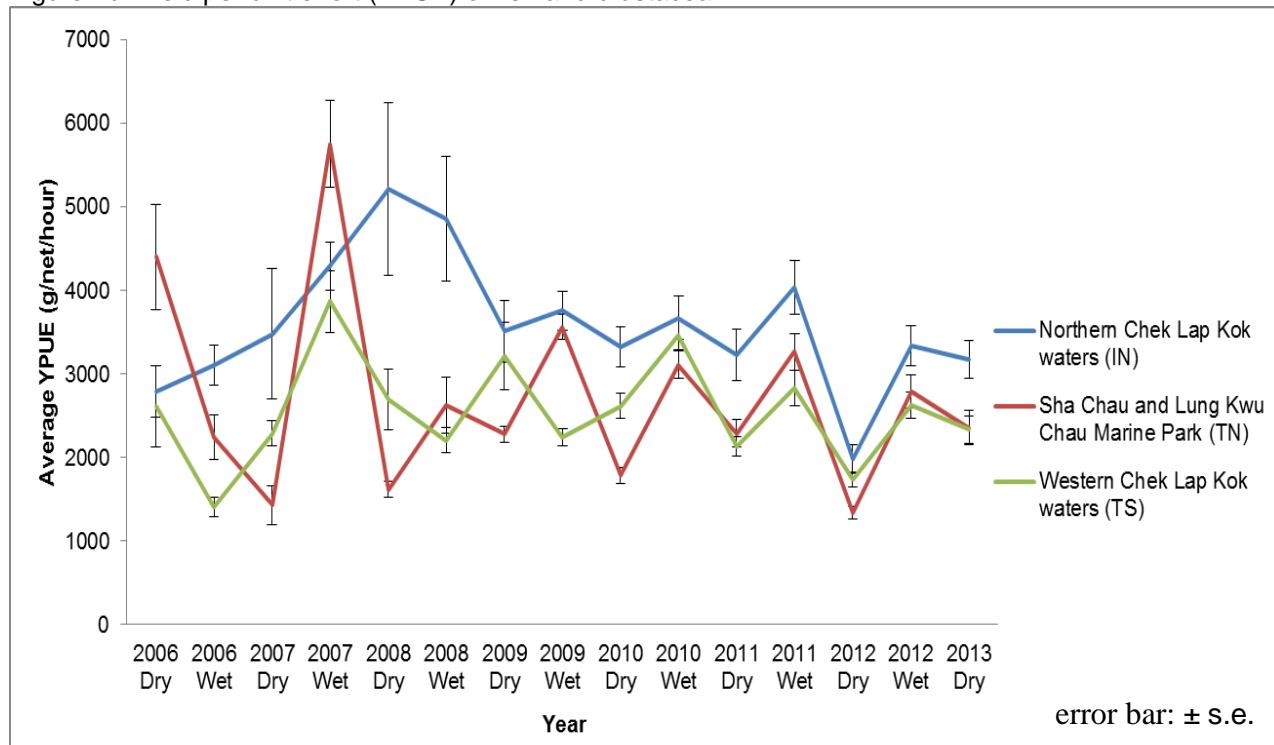


Figure 1b: Yield per unit effort (YPUE) of fish and crustacean



Expansion of Hong Kong International Airport into a Three-Runway System

Environmental Impact Assessment Report

Appendix 14.1 Annex B Literature Review of CMP Trawling Survey Data from 2006-2013



Figure 2a: CPUE of other species

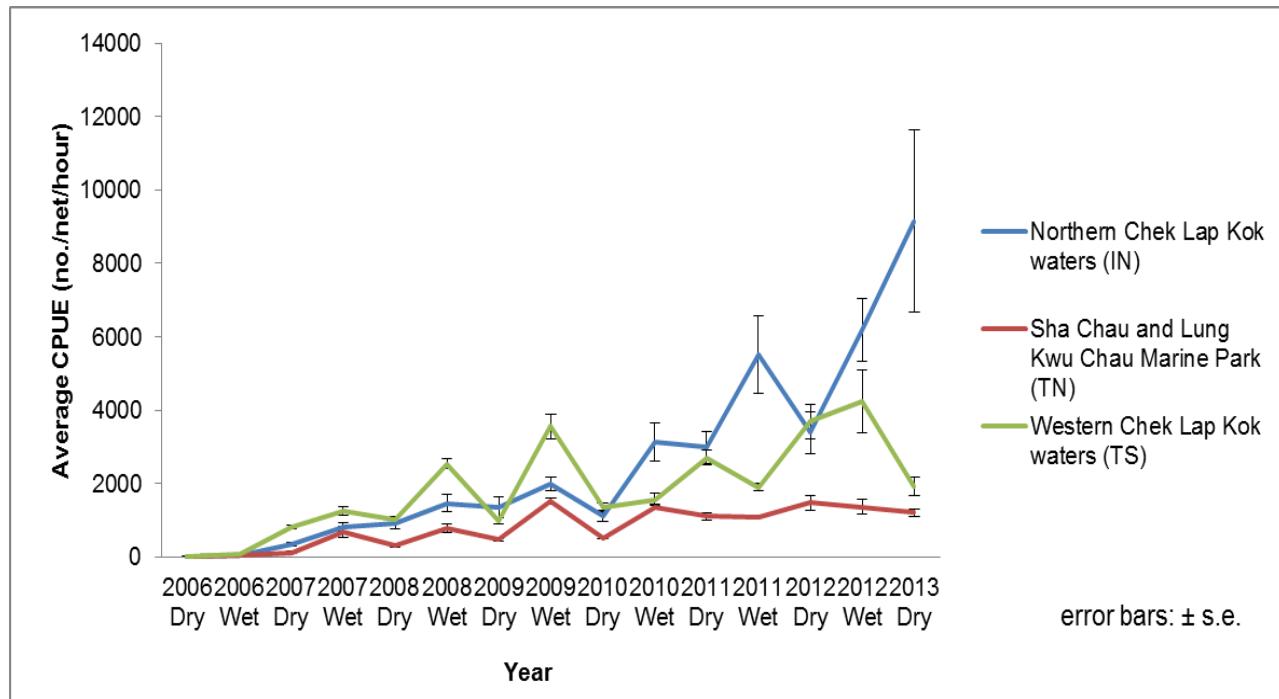
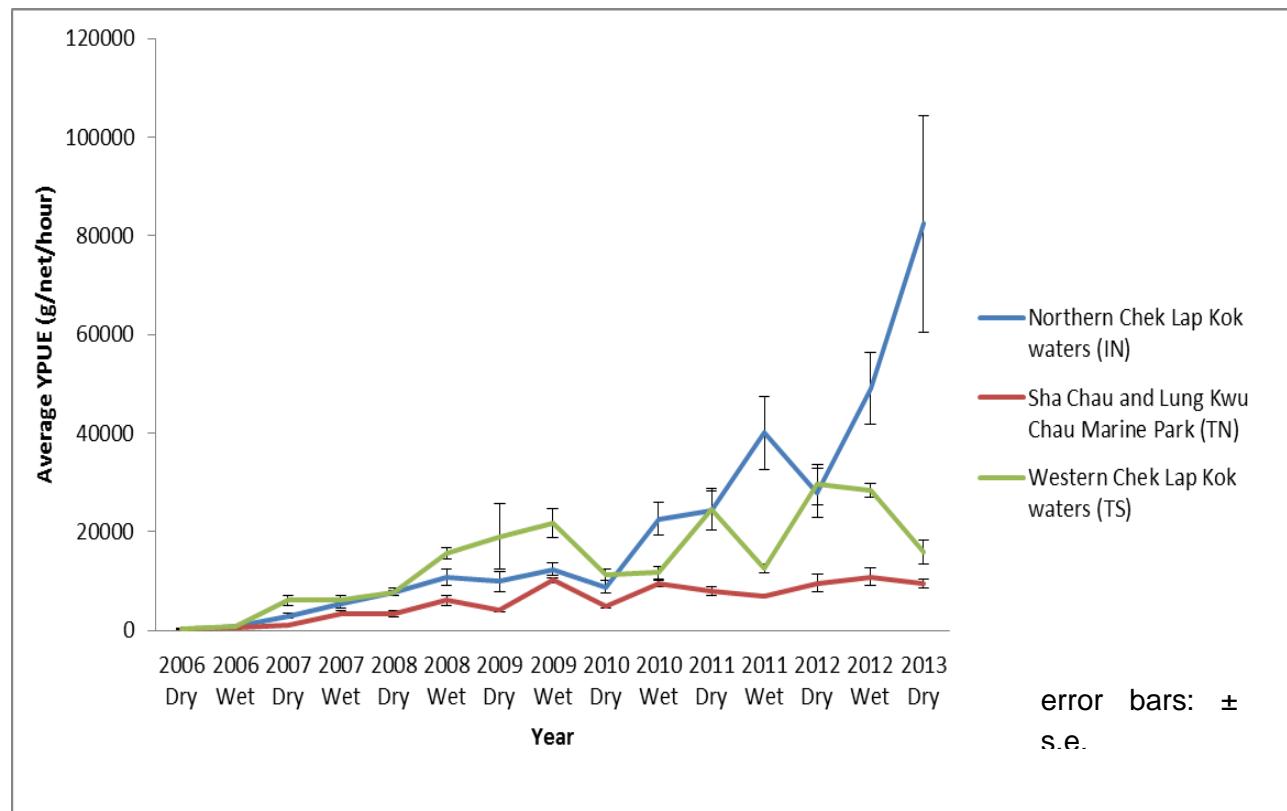


Figure 2a: YPUE of other species



Source of raw data: CEDD Contaminated Mud Pit EM&A data 2006-2013.

**Appendix 14.1 Annex C Literature Review of Species Recorded in CMP Trawling Survey from 2006 to 2013**

Total abundance of different species recorded from 2006 to 2013 in northern Chek Lap Kok water (IN station)

Species Group	Order	Family	Species	Abundance Recorded
Gastropod	Caenogastropoda	Turritellidae	<i>Turritella terebra</i>	656036
Barnacle	Sessilia	Balanidae	<i>Balanus sp.</i>	30522
Crab	Decapoda	Portunidae	<i>Charybdis spp.</i>	22934
Bivalve	Veneroida	Veneridae	<i>Venerupis philippinarum</i>	20528
Crab			hermit crab	14662
Gastropod	Neogastropoda	Muricidae	<i>Murex trapa</i>	13285
Cnidarian	Pennatulacea	Pennatulidae	<i>Pteroeides chinense</i>	9684
Echinoderm	Pennatulacea	Veretillidae	<i>Cavernularia habereri</i>	8578
Gastropod	Neogastropoda	Nassariidae	<i>Nassarius succinctus</i>	7971
Bivalve	Veneroida	Veneridae	<i>Paphia undulata</i>	7928
Gastropod	Gastropoda	Pseudomelatomidae	<i>Inquistor flavidula</i>	5059
Crab	Decapoda	Dorippidae	<i>Paradorippe polita</i>	4690
Gastropod	Neogastropoda	Muricidae	<i>Morula mutica</i>	4556
Barnacle	Sessilia	Balanidae	<i>Amphibalanus sp.</i>	3820
Gastropod	Neogastropoda	Clavatulidae	<i>Turricula javana</i>	3068
Fish	Perciformes	Leiognathidae	<i>Leiognathus brevirostris</i>	2897
Fish	Perciformes	Gobiidae	<i>Trypauchen vagina</i>	2601
Crab	Decapoda	Euryplacidae	<i>Eucrate crenata</i>	2334
Prawn or shrimp	Decapoda	Penaeidae	<i>Metapenaeus affinis</i>	2279
Echinoderm	Molpadida	Caudinidae	<i>Acaudina molpadiooides</i>	2084
Prawn or shrimp	Decapoda	Penaeidae	<i>Metapenaeus ensis</i>	2002
Bivalve	Arcoida	Arcidae	<i>Tegillarca nodifera</i>	1854
Fish	Scorpaeniformes	Platycephalidae	<i>Platycephalus indicus</i>	1693
Bivalve	Veneroida	Veneridae	<i>Chione isabellina</i>	1626
Bivalve	Arcoida	Arcidae	<i>Anadara ferruginea</i>	1559
Echinoderm	Pennatulacea	Virgulariidae	<i>Virgularia gustaviana</i>	1520
Gastropod	Neogastropoda	Clavatulidae	<i>Turricula nelliae</i>	1520
Crab	Decapoda	Porcellanidae	<i>Porcellanella triloba</i>	1502
Mantis shrimp	Stomatopoda	Squillidae	<i>Oratosquilla interrupta</i>	1466
Fish	Perciformes	Siganidae	<i>Siganus canaliculatus</i>	1261
			Others	29239
			Total	870758

2006 Dry

Species	Commercial value	Abundance
<i>Charybdis affinis</i>	Nil	347
<i>Parachaeturichthys polynema</i>	Low	178
<i>Oratosquilla interrupta</i>	High	96
<i>Harpiosquilla harpax</i>	High	84
<i>Leiognathus brevirostris</i>	Medium	78
<i>Johnius belangerii</i>	Low	62
<i>Alephus digitalis</i>	Low	51
<i>Galene bispinosa</i>	Nil	47
<i>Alcockpenaeopsis hungerfordii</i>	High	42
<i>Cynoglossus arel</i>	High	39
<i>Trypauchen vagina</i>	Low	33
<i>Oratosquilla oratoria</i>	High	27
<i>Sea Pen</i>	Nil	23
<i>Charybdis hellerii</i>	Low	22
<i>Polydactylus sextarius</i>	Medium	21
<i>Metapenaeopsis palmensis</i>	High	18
<i>Oxyurichthys tentacularis</i>	Low	15
<i>Platycephalus indicus</i>	Medium	15
<i>Metapenaeus ensis</i>	High	14
<i>Solea ovata</i>	Medium	12

2006 Wet

Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	745
<i>Metapenaeus affinis</i>	High	418
<i>Charybdis affinis</i>	Nil	297
<i>Sea Pen</i>	Nil	282
<i>Leiognathus brevirostris</i>	Medium	273
<i>Siganus canaliculatus</i>	Low	257
<i>Stolephorus indicus</i>	Low	231
<i>Trypauchen vagina</i>	Low	200
<i>Platycephalus indicus</i>	Medium	189
<i>Johnius belangerii</i>	Low	162
<i>Alcockpenaeopsis hungerfordii</i>	High	147
<i>Harpiosquilla harpax</i>	High	133
<i>Oratosquilla interrupta</i>	High	117
<i>Murex trapa</i>	Nil	109
<i>Parachaeturichthys polynema</i>	Low	102
<i>Cynoglossus arel</i>	High	97
<i>Fenneropenaeus penicillatus</i>	High	84
<i>Metapenaeus ensis</i>	High	80
<i>hermit crab</i>	Nil	50
<i>Glossogobius giuris</i>	Low	47

2007 Dry

Species	Commercial value	Abundance
<i>Cavernularia habereri</i>	Nil	2047
<i>Turritella terebra</i>	Low	1533
<i>Charybdis sp.</i>	Nil	1366
<i>Charybdis affinis</i>	Nil	532
<i>Virgularia gustaviana</i>	Nil	493
<i>Murex trapa</i>	Nil	321
<i>hermit crab</i>	Nil	235
<i>Turricula nelliae</i>	Nil	192
<i>Molpadia roretzii</i>	Nil	155
<i>Paphia undulata</i>	Low	108
<i>Eucrate crenata</i>	Nil	86
<i>Nassarius succinctus</i>	Nil	81
<i>Charybdis feriata</i>	High	79
<i>Philine orientalis</i>	Nil	75
<i>Oratosquilla oratoria</i>	High	65
<i>Alcockpenaeopsis hungerfordii</i>	High	64
<i>Typhlocarcinus sp.</i>	Nil	64
<i>Ellisella laevis</i>	Nil	62
<i>Platycephalus indicus</i>	Medium	60
<i>Cynoglossus arel</i>	High	59

2007 Wet

Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	8914
<i>Charybdis sp.</i>	Nil	2514
<i>Cavernularia habereri</i>	Nil	2101
<i>Murex trapa</i>	Nil	2093
<i>Charybdis variegata</i>	Nil	1808
<i>hermit crab</i>	Nil	571
<i>Oratosquilla interrupta</i>	High	371
<i>Platycephalus indicus</i>	Medium	260
<i>Metapenaeus ensis</i>	High	253
<i>Metapenaeopsis tenella</i>	High	229
<i>Trypauchen vagina</i>	Low	186
<i>Molpadia roretzii</i>	Nil	167
<i>Fenneropenaeus penicillatus</i>	High	156
<i>Typhlocarcinus sp.</i>	Nil	153
<i>Parapenaeopsis tenella</i>	Low	149
<i>Leiognathus brevirostris</i>	Medium	137
<i>Portunus pelagicus</i>	High	114
<i>Johnius belangerii</i>	Low	112
<i>Charybdis affinis</i>	Nil	108
<i>Parachaeturichthys polynema</i>	Low	92

2008 Dry

Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	13147
<i>Charybdis sp.</i>	Nil	1749
<i>hermit crab</i>	Nil	1342
<i>Murex trapa</i>	Nil	1193
<i>Cavernularia habereri</i>	Nil	951
<i>Nassarius succinctus</i>	Nil	240
<i>Charybdis affinis</i>	Nil	237
<i>Lophiotoma leucotropis</i>	Nil	135
<i>Paphia undulata</i>	Low	134
<i>Platycephalus indicus</i>	Medium	133
<i>Virgularia gustaviana</i>	Nil	133
<i>Trypauchen vagina</i>	Low	127
<i>Scapharca subcrenata</i>	Low	114
<i>Cynoglossus arel</i>	High	107
<i>Acaudina molpadiooides</i>	Nil	106
<i>Venerupis philippinarum</i>	Low	100
<i>Gerres filamentosus</i>	Low	98
<i>Eucrate crenata</i>	Nil	90
<i>Leucosia craniolaris</i>	Nil	89
<i>Parapenaeopsis tenella</i>	Low	74

2008 Wet

Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	19586
<i>Murex trapa</i>	Nil	3211
<i>hermit crab</i>	Nil	1342
<i>Cavernularia habereri</i>	Nil	1228
<i>Siganus fuscescens</i>	Medium	1143
<i>Paphia undulata</i>	Low	1084
<i>Charybdis sp.</i>	Nil	998
<i>Turricula nelliae</i>	Nil	851
<i>Siganus canaliculatus</i>	Low	698
<i>Acaudina molpadiooides</i>	Nil	673
<i>Nassarius succinctus</i>	Nil	509
<i>Metapenaeus affinis</i>	High	382
<i>Trypauchen vagina</i>	Low	308
<i>Lophiotoma leucotropis</i>	Nil	304
<i>Virgularia gustaviana</i>	Nil	296
<i>Eucrate crenata</i>	Nil	264
<i>Scapharca subcrenata</i>	Low	250
<i></i>		

2009 Dry				2009 Wet			
Species	Commercial value	Abundance		Species	Commercial value	Abundance	
<i>Turritella terebra</i>	Low	22781		<i>Turritella terebra</i>	Low	31570	
<i>Charybdis sp.</i>	Nil	1094		<i>Amphibalanus sp.</i>	Nil	2163	
<i>Paphia undulata</i>	Low	1004		<i>Paphia undulata</i>	Low	2148	
<i>Amphibalanus sp.</i>	Nil	965		<i>Charybdis sp.</i>	Nil	2074	
<i>hermit crab</i>	Nil	885		<i>Anadara ferruginea</i>	Low	1351	
<i>Murex trapa</i>	Nil	773		<i>hermit crab</i>	Nil	1144	
<i>Nassarius succinctus</i>	Nil	409		<i>Murex trapa</i>	Nil	1135	
<i>Acaudina molpadoides</i>	Nil	375		<i>Nassarius succinctus</i>	Nil	656	
<i>Leiognathus brevirostris</i>	Medium	358		<i>Macoma candida</i>	Nil	312	
<i>Charybdis affinis</i>	Nil	325		<i>Parapenaeopsis tenella</i>	Low	291	
<i>Eucrate crenata</i>	Nil	287		<i>Eucrate crenata</i>	Nil	256	
<i>Cavernularia habereri</i>	Nil	266		<i>Fenneropenaeus penicillatus</i>	High	244	
<i>Virgularia gustaviana</i>	Nil	219		<i>Platycephalus indicus</i>	Medium	236	
<i>Trypauchen vagina</i>	Low	196		<i>Carcinactis ichikawai</i>	Nil	233	
<i>Oratosquilla interrupta</i>	High	169		<i>Portunus pelagicus</i>	High	230	
<i>Lophiotoma leucotropis</i>	Nil	151		<i>Trypauchen vagina</i>	Low	221	
<i>Parapenaeopsis tenella</i>	Low	137		<i>Acaudina molpadoides</i>	Nil	206	
<i>Ellisella laevis</i>	Nil	109		<i>Oratosquilla interrupta</i>	High	197	
<i>Cynoglossus arel</i>	High	83		<i>Metapenaeus affinis</i>	High	196	
<i>Inegocia japonica</i>	Low	83		<i>Inegocia japonica</i>	Low	184	
2010 Dry				2010 Wet			
Species	Commercial value	Abundance		Species	Commercial value	Abundance	
<i>Turritella terebra</i>	Low	38438		<i>Turritella terebra</i>	Low	35210	
<i>Paphia undulata</i>	Low	3266		<i>Venerupis philippinarum</i>	Low	17702	
<i>Charybdis sp.</i>	Nil	1506		<i>Balanus sp.</i>	Nil	3338	
<i>Balanus sp.</i>	Nil	1360		<i>Paphia undulata</i>	Low	2262	
<i>hermit crab</i>	Nil	1339		<i>Nassarius succinctus</i>	Nil	1427	
<i>Morula mutica</i>	Nil	1339		<i>Charybdis sp.</i>	Nil	1274	
<i>Murex trapa</i>	Nil	778		<i>hermit crab</i>	Nil	1038	
<i>Amphibalanus sp.</i>	Nil	692.4		<i>Murex trapa</i>	Nil	878	
<i>Nassarius succinctus</i>	Nil	565		<i>Metapenaeus ensis</i>	High	829	
<i>Inquistor flavidula</i>	Nil	349		<i>Morula mutica</i>	Nil	813	
<i>Scapharca subcrenata</i>	Low	348		<i>Tegillarca nodifera</i>	Low	652	
<i>Turricula javana</i>	Nil	342		<i>Metapenaeus affinis</i>	High	434	
<i>Charybdis affinis</i>	Nil	320		<i>Charybdis affinis</i>	Nil	397	
<i>Venerupis philippinarum</i>	Low	265		<i>Siganus canaliculatus</i>	Low	351	
<i>Cavernularia habereri</i>	Nil	263		<i>Trypauchen vagina</i>	Low	326	
<i>Tegillarca nodifera</i>	Low	236		<i>Inquistor flavidula</i>	Nil	306	
<i>Eucrate crenata</i>	Nil	204		<i>Cavernularia habereri</i>	Nil	260	
<i>Trypauchen vagina</i>	Low	171		<i>Eucrate crenata</i>	Nil	205	
<i>Leiognathus brevirostris</i>	Medium	128		<i>Leiognathus brevirostris</i>	Medium	193	
<i>Parapenaeopsis tenella</i>	Low	102		<i>Platycephalus indicus</i>	Medium	178	
2011 Dry				2011 Wet			
Species	Commercial value	Abundance		Species	Commercial value	Abundance	
<i>Turritella terebra</i>	Low	47688		<i>Turritella terebra</i>	Low	93490	
<i>Balanus sp.</i>	Nil	3460		<i>Balanus sp.</i>	Nil	3950	
<i>Paphia undulata</i>	Low	2018		<i>Paphia undulata</i>	Low	2620	
<i>Nassarius succinctus</i>	Nil	934		<i>hermit crab</i>	Nil	2346	
<i>Charybdis sp.</i>	Nil	867		<i>Nassarius succinctus</i>	Nil	1938	
<i>Inquistor flavidula</i>	Nil	795		<i>Inquistor flavidula</i>	Nil	1666	
<i>hermit crab</i>	Nil	587		<i>Charybdis sp.</i>	Nil	1496	
<i>Turricula javana</i>	Nil	514		<i>Turricula javana</i>	Nil	1403	
<i>Venerupis philippinarum</i>	Low	493		<i>Murex trapa</i>	Nil	1235	
<i>Murex trapa</i>	Nil	409		<i>Morula mutica</i>	Nil	1037	
<i>Charybdis affinis</i>	Nil	364		<i>Chione isabellina</i>	Nil	832	
<i>Nassarius hepaticus</i>	Nil	285		<i>Leiognathus brevirostris</i>	Medium	784	
<i>Morula mutica</i>	Nil	207		<i>Venerupis philippinarum</i>	Low	705	
<i>Pilosabia pilosa</i>	Nil	178		<i>Calyptraea sp.</i>	Nil	678	
<i>Chione isabellina</i>	Nil	159		<i>Eucrate crenata</i>	Nil	597	
<i>Trypauchen vagina</i>	Low	146		<i>Tegillarca nodifera</i>	Low	590	
<i>Cynoglossus arel</i>	High	130		<i>Metapenaeus affinis</i>	High	459	
<i>Eucrate crenata</i>	Nil	94		<i>Macoma candida</i>	Nil	418	
<i>Cavernularia habereri</i>	Nil	79		<i>Cavernularia habereri</i>	Nil	294	
<i>Acaudina molpadoides</i>	Nil	75		<i>Metapenaeus ensis</i>	High	250	
2012 Dry				2012 Wet			
Species	Commercial value	Abundance		Species	Commercial value	Abundance	
<i>Turritella terebra</i>	Low	54822		<i>Turritella terebra</i>	Low	111531	
<i>Balanus sp.</i>	Nil	8708		<i>Balanus sp.</i>	Nil	5268	
<i>Charybdis sp.</i>	Nil	841		<i>hermit crab</i>	Nil	1445	
<i>hermit crab</i>	Nil	831		<i>Inquistor flavidula</i>	Nil	1113	
<i>Paphia undulata</i>	Low	810		<i>Charybdis sp.</i>	Nil	1112	
<i>Venerupis philippinarum</i>	Low	569		<i>Ostrea sp.</i>	Low	902	
<i>Inquistor flavidula</i>	Nil	543		<i>Murex trapa</i>	Nil	697	
<i>Crassostrea sp.</i>	Nil	420		<i>Cavernularia habereri</i>	Nil	639	
<i>Morula mutica</i>	Nil	408		<i>Morula mutica</i>	Nil	612	
<i>Temnopleurus toreumaticus</i>	Nil	364		<i>Nassarius succinctus</i>	Nil	524	
<i>Acaudina molpadoides</i>	Nil	262		<i>Turricula javana</i>	Nil	452	
<i>Murex trapa</i>	Nil	253		<i>Venerupis philippinarum</i>	Low	426	
<i>Nassarius succinctus</i>	Nil	192		<i>Paphia undulata</i>	Low	314	
<i>Leiognathus brevirostris</i>	Medium	151		<i>Leiognathus brevirostris</i>	Medium	306	
<i>Trypauchen vagina</i>	Low	140		<i>Trypauchen vagina</i>	Low	297	
<i>Cavernularia habereri</i>	Nil	106		<i>Eucrate crenata</i>	Nil	198	
<i>Fenneropenaeus merguiensis</i>	High	95		<i>Portunus pelagicus</i>	High	150	
<i>Turricula nelliae</i>	Nil	95		<i>Metapenaeus ensis</i>	High	138	
<i>Trichotropis sp.</i>	Nil	90		<i>Siphopatella walshi</i>	Nil	138	
<i>Chlamys nobilis</i>	Low	87		<i>Calyptraea sp.</i>	Nil	120	

2013 Dry <b>Species</b>	<b>Commercial value</b>	<b>Abundance</b>
<i>Turritella terebra</i>	Low	176578
<i>Balanus sp.</i>	Nil	4438
hermit crab	Nil	1500
<i>Charybdis sp.</i>	Nil	1038
<i>Inquistor flavidula</i>	Nil	548
<i>Nassarius succinctus</i>	Nil	417
<i>Fenneropenaeus merguiensis</i>	High	334
<i>Murex trapa</i>	Nil	190
<i>Cavemularia habereri</i>	Nil	164
<i>Turridula javanaugh</i>	Nil	142
<i>Leiognathus brevirostris</i>	Medium	133
<i>Charybdis affinis</i>	Nil	115
<i>Venerupis philippinarum</i>	Low	97
<i>Cynoglossus arel</i>	High	95
<i>Platycephalus indicus</i>	Medium	91
<i>Solea ovata</i>	Medium	79
<i>Parapenaeopsis tenella</i>	Low	77
<i>Trypauchen vagina</i>	Low	74
<i>Virgularia gustaviana</i>	Nil	70
<i>Oratosquilla oratoria</i>	High	67

Source of raw data: CEDD Contaminated Mud Pit EM&A data 2006-2013.

Total yield of different species recorded from 2006 to 2013 in Chek Lap Kok water (IN station)

Species Group	Order	Family	Species	Yield Recorded (g)
Gastropod	Caenogastropoda	Turritellidae	<i>Turritella terebra</i>	5591388.9
Crab	Decapoda	Portunidae	<i>Charybdis spp.</i>	242487.4
Cnidarian	Pennatulacea	Pennatulidae	<i>Pteroeides chinense</i>	178434.6
Bivalve	Veneroida	Veneridae	<i>Venerupis philippinarum</i>	103291.2
Gastropod	Neogastropoda	Muricidae	<i>Murex trapa</i>	88437.3
Fish	Scorpaeniformes	Platycephalidae	<i>Platycephalus indicus</i>	66498.5
Crab			hermit crab	50652.2
Bivalve	Veneroida	Veneridae	<i>Paphia undulata</i>	46390.6
Echinoderm	Molpadida	Caudinidae	<i>Acaudina molpadiooides</i>	45237.0
Echinoderm	Pennatulacea	Veretillidae	<i>Cavernularia habereri</i>	43184.3
Fish	Perciformes	Gobiidae	<i>Trypauchen vagina</i>	35460.2
Fish	Perciformes	Leiognathidae	<i>Leiognathus brevirostris</i>	34461.8
Mantis shrimp	Stomatopoda	Squillidae	<i>Oratosquilla interrupta</i>	32963.3
Fish	Pleuronectiformes	Cynoglossidae	<i>Cynoglossus arel</i>	31705.9
Crab	Decapoda	Portunidae	<i>Portunus pelagicus</i>	29156.7
Crab	Decapoda	Dorippidae	<i>Paradorippe polita</i>	28955.9
Bivalve	Arcida	Arcidae	<i>Anadara sativa</i>	26085.6
Gastropod	Neogastropoda	Muricidae	<i>Morula mutica</i>	25401.3
Fish	Perciformes	Siganidae	<i>Siganus fuscescens</i>	24583.0
Fish	Perciformes	Sciaenidae	<i>Johnius belangerii</i>	23056.5
Prawn or shrimp	Decapoda	Penaeidae	<i>Metapenaeus affinis</i>	21338.5
Prawn or shrimp	Decapoda	Penaeidae	<i>Fenneropenaeus merguiensis</i>	20617.8
Fish	Perciformes	Siganidae	<i>Siganus canaliculatus</i>	20147.0
Mantis shrimp	Stomatopoda	Squillidae	<i>Harpiosquilla harpax</i>	19687.8
Prawn or shrimp	Decapoda	Penaeidae	<i>Metapenaeus ensis</i>	18646.9
Fish	Perciformes	Sciaenidae	<i>Johnius amblycephalus</i>	17984.8
Crab	Decapoda	Euryplacidae	<i>Eucrate crenata</i>	16001.5
Fish	Perciformes	Gobiidae	<i>Acentrogobius caninus</i>	14881.5
Gastropod	Neogastropoda	Nassariidae	<i>Nassarius succinctus</i>	14619.8
Mantis shrimp	Stomatopoda	Squillidae	<i>Oratosquilla oratoria</i>	14088.1
			Others	396149.5
			Total	7321995.4

2006 Dry

Species	Commercial value	Yield (g)
<i>Charybdis affinis</i>	Nil	9555.9
<i>Harpiosquilla harpax</i>	High	1943.4
<i>Oratosquilla interrupta</i>	High	1935.2
<i>Johnius belangerii</i>	Low	1569.87
<i>Parachaeturichthys polynema</i>	Low	1418.4
<i>Galene bispinosa</i>	Nil	1311
<i>Portunus trituberculatus</i>	High	1236.8
<i>Charybdis feriata</i>	High	1080.5
<i>Platycephalus indicus</i>	Medium	1038.7
<i>Cynoglossus arel</i>	High	1023.2
<i>Leiognathus brevirostris</i>	Medium	669.1
<i>Oratosquilla oratoria</i>	High	605.8
<i>Plotosus lineatus</i>	Low	570.3
<i>Nemipterus japonicus</i>	Low	550.5
<i>Polydactylus sextarius</i>	Medium	461.8
<i>Fenneropenaeus merguiensis</i>	High	456.7
<i>Trypauchen vagina</i>	Low	420.4
Sea Pen	Nil	349.9
<i>Alephus digitalis</i>	Low	290.1
<i>Alcockpenaeopsis hungerfordii</i>	High	267.6

2006 Wet

Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	8817.6
<i>Johnius belangerii</i>	Low	6120.4
<i>Charybdis affinis</i>	Nil	5767
<i>Platycephalus indicus</i>	Medium	5504
<i>Harpiosquilla harpax</i>	High	5487.8
<i>Siganus canaliculatus</i>	Low	3953.9
<i>Metapenaeus affinis</i>	High	3737.2
<i>Cynoglossus arel</i>	High	3269.8
Sea Pen	Nil	3134.5
<i>Trypauchen vagina</i>	Low	2996.2
<i>Portunus pelagicus</i>	High	2913.8
<i>Leiognathus brevirostris</i>	Medium	2899.5
<i>Oratosquilla interrupta</i>	High	2530.2
<i>Parachaeturichthys polynema</i>	Low	1378.2
<i>Charybdis feriata</i>	High	1346.9
<i>Portunus trituberculatus</i>	High	1329
<i>Fenneropenaeus penicillatus</i>	High	1292
<i>Scatophagus argus</i>	High	1287.1
<i>Alcockpenaeopsis hungerfordii</i>	High	1237.6
<i>Murex trapa</i>	Nil	1012.4

2007 Dry

Species	Commercial value	Yield (g)
<i>Charybdis affinis</i>	Nil	14275.4
<i>Cavernularia habereri</i>	Nil	13449.8
<i>Turritella terebra</i>	Low	12143.9
<i>Charybdis sp.</i>	Nil	9846.5
<i>Charybdis feriata</i>	High	9402.2
<i>Lateolabrax japonicus</i>	High	8857.9
<i>Platycephalus indicus</i>	Medium	5345.8
<i>Cynoglossus arel</i>	High	2023.5
<i>Oratosquilla oratoria</i>	High	1924.3
<i>Murex trapa</i>	Nil	1845.2
<i>Fenneropenaeus merguiensis</i>	High	1494.4
<i>Molpadia roretzii</i>	Nil	1453.7
<i>Virgularia gustaviana</i>	Nil	1442.2
<i>Gerres filamentosus</i>	Low	1343.4
<i>Johnius belangerii</i>	Low	1337.4
<i>Johnius amblycephalus</i>	Low	1311.9
<i>Eucrate crenata</i>	Nil	1284.4
<i>Leiognathus brevirostris</i>	Medium	873.1
<i>Charybdis natator</i>	Low	827.8
<i>Paphia undulata</i>	Low	809.2

2007 Wet

Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	51734
<i>Charybdis sp.</i>	Nil	13598
<i>Murex trapa</i>	Nil	11157.8
<i>Charybdis variegata</i>	Nil	8096
<i>Portunus pelagicus</i>	High	7991.2
<i>Oratosquilla interrupta</i>	High	7751.8
<i>Platycephalus indicus</i>	Medium	7100.5
<i>Cavernularia habereri</i>	Nil	6522.7
<i>Johnius belangerii</i>	Low	2714.9
<i>Trypauchen vagina</i>	Low	2585.4
<i>Metapenaeus affinis</i>	High	2511.9
<i>Harpiosquilla harpax</i>	High	2380.4
<i>Fenneropenaeus penicillatus</i>	High	2348.8
<i>Charybdis affinis</i>	Nil	2144.6
hermit crab	Nil	2053.7
<i>Metapenaeus ensis</i>	High	1965
<i>Molpadia roretzii</i>	Nil	1959
<i>Galene bispinosa</i>	Nil	1731.2
<i>Portunus trituberculatus</i>	High	1721.6
<i>Acentrogobius caninus</i>	Low	1707.1

2008 Dry

Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	84784
<i>Charybdis sp.</i>	Nil	9927
<i>Charybdis affinis</i>	Nil	7667.3
<i>Murex trapa</i>	Nil	7495.6
<i>Platycephalus indicus</i>	Medium	5977
hermit crab	Nil	5447.2
<i>Cavernularia habereri</i>	Nil	5442.5
<i>Charybdis feriata</i>	High	3912.4
<i>Cynoglossus arel</i>	High	2723.1
<i>Portunus pelagicus</i>	High	2646.8
<i>Acaudina molpadiooides</i>	Nil	2570.7
<i>Fenneropenaeus merguiensis</i>	High	2126.9
<i>Johnius belangerii</i>	Low	2100.8
<i>Gerres filamentosus</i>	Low	2002.8
<i>Oratosquilla oratoria</i>	High	1761.7
<i>Johnius amblycephalus</i>	Low	1547
<i>Trypauchen vagina</i>	Low	1540.8
<i>Nibea soldado</i>	High	1264.4
<i>Scapharca subcrenata</i>	Low	1172.4
<i>Perna viridis</i>	Low	1154

2008 Wet

Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	127056
<i>Siganus fuscescens</i>	Medium	24460
<i>Scapharca subcrenata</i>	Low	23566.8
<i>Murex trapa</i>	Nil	21077
<i>Acaudina molpadiooides</i>	Nil	13792.2
<i>Siganus canaliculatus</i>	Low	11675
<i>Paphia undulata</i> </		

2009 Dry			2009 Wet		
Species	Commercial value	Yield (g)	Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	153689	<i>Turritella terebra</i>	Low	213503
<i>Charybdis affinis</i>	Nil	10574.5	<i>Portunus pelagicus</i>	High	15130
<i>Acaudina molpadoides</i>	Nil	8730	<i>Charybdis sp.</i>	Nil	13797
<i>Murex trapa</i>	Nil	8321	<i>Paphia undulata</i>	Low	10812.2
<i>Charybdis sp.</i>	Nil	7417	<i>Murex trapa</i>	Nil	7107
<i>Paphia undulata</i>	Low	5678.8	<i>Anadara ferruginea</i>	Low	6597.2
<i>Leiognathus brevirostris</i>	Medium	5363.9	<i>Platycephalus indicus</i>	Medium	5507
<i>Oratosquilla interrupta</i>	High	3827.9	<i>Acaudina molpadoides</i>	Nil	4603.2
<i>Dasyatis akajei</i>	Low	3762	<i>hermit crab</i>	Nil	4427
<i>Platycephalus indicus</i>	Medium	3040	<i>Oratosquilla interrupta</i>	High	3740
<i>hermit crab</i>	Nil	2840	<i>Trypauchen vagina</i>	Low	3455
<i>Cynoglossus arel</i>	High	2718.2	<i>Charybdis affinis</i>	Nil	3010
<i>Trypauchen vagina</i>	Low	2699.8	<i>Fenneropenaeus penicillatus</i>	High	2925
<i>Johnius amblycephalus</i>	Low	2627.4	<i>Inegocia japonica</i>	Low	2637
<i>Ellisella laevis</i>	Nil	2418	<i>Acentrogobius caninus</i>	Low	2607
<i>Octopus sp.</i>	Low	2372.1	<i>Leiognathus brevirostris</i>	Medium	1755
<i>Charybdis feriata</i>	High	2061.7	<i>Parapenaeopsis tenella</i>	Low	1729
<i>Eucrate crenata</i>	Nil	2026.5	<i>Cynoglossus arel</i>	High	1710
<i>Nibea soldado</i>	High	1994.5	<i>Macoma candida</i>	Nil	1620.1
<i>Gerres filamentosus</i>	Low	1782.1	<i>Metapenaeus affinis</i>	High	1585
2010 Dry			2010 Wet		
Species	Commercial value	Yield (g)	Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	343050	<i>Turritella terebra</i>	Low	328420
<i>Paphia undulata</i>	Low	19604.4	<i>Venerupis philippinarum</i>	Low	84549
<i>Scapharca subcrenata</i>	Low	15211.2	<i>Paphia undulata</i>	Low	12372.2
<i>Charybdis sp.</i>	Nil	14760	<i>Charybdis sp.</i>	Nil	9920
<i>Charybdis affinis</i>	Nil	11310	<i>Metapenaeus ensis</i>	High	8030
<i>Morula mutica</i>	Nil	6906.8	<i>Morula mutica</i>	Nil	5653.4
<i>Charybdis feriata</i>	High	6060	<i>Murex trapa</i>	Nil	5510.2
<i>Murex trapa</i>	Nil	5192.2	<i>Scapharca subcrenata</i>	Low	5041.2
<i>hermit crab</i>	Nil	4274	<i>Platycephalus indicus</i>	Medium	4410
<i>Johnius amblycephalus</i>	Low	3015	<i>Trypauchen vagina</i>	Low	4095
<i>Johnius belangerii</i>	Low	2870	<i>Metapenaeus affinis</i>	High	3855
<i>Chrysochir aureus</i>	High	2855	<i>hermit crab</i>	Nil	3839
<i>Platycephalus indicus</i>	Medium	2665	<i>Charybdis affinis</i>	Nil	3718
<i>Trypauchen vagina</i>	Low	2475	<i>Siganus canaliculatus</i>	Low	3620
<i>Oratosquilla oratoria</i>	High	2400	<i>Tegillarca nodifera</i>	Low	3408.6
<i>Oratosquilla interrupta</i>	High	2265	<i>Oratosquilla interrupta</i>	High	3155
<i>Cynoglossus arel</i>	High	2169	<i>Galene bispinosa</i>	Nil	3081.4
<i>Octopus sp.</i>	Low	2130	<i>Leiognathus brevirostris</i>	Medium	2289
<i>Leiognathus brevirostris</i>	Medium	1890	<i>Nassarius succinctus</i>	Nil	2104
<i>Lateolabrax japonicus</i>	High	1823	<i>Acaudina molpadoides</i>	Nil	2068.1
2011 Dry			2011 Wet		
Species	Commercial value	Yield (g)	Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	446102	<i>Turritella terebra</i>	Low	733990
<i>Paphia undulata</i>	Low	10870	<i>Paphia undulata</i>	Low	16628
<i>Charybdis sp.</i>	Nil	9896	<i>Portunus trituberculatus</i>	High	16068
<i>Charybdis affinis</i>	Nil	9387	<i>Charybdis sp.</i>	Nil	9978
<i>Cynoglossus arel</i>	High	3142	<i>Platycephalus indicus</i>	Medium	8377
<i>Murex trapa</i>	Nil	2735	<i>Murex trapa</i>	Nil	8270
<i>hermit crab</i>	Nil	2432	<i>Portunus pelagicus</i>	High	8114
<i>Venerupis philippinarum</i>	Low	2290	<i>Leiognathus brevirostris</i>	Medium	6744
<i>Platycephalus indicus</i>	Medium	1968	<i>hermit crab</i>	Nil	6014
<i>Nassarius succinctus</i>	Nil	1967	<i>Morula mutica</i>	Nil	5872
<i>Trypauchen vagina</i>	Low	1912	<i>Acaudina molpadoides</i>	Nil	4129.6
<i>Charybdis feriata</i>	High	1898	<i>Chione isabellina</i>	Nil	4064.2
<i>Balanus sp.</i>	Nil	1658	<i>Nassarius succinctus</i>	Nil	3895
<i>Inquistor flavidula</i>	Nil	1606	<i>Inquistor flavidula</i>	Nil	3034
<i>Johnius amblycephalus</i>	Low	1457	<i>Eucrate crenata</i>	Nil	2913.2
<i>Acaudina molpadoides</i>	Nil	1076	<i>Tegillarca nodifera</i>	Low	2828.6
<i>Morula mutica</i>	Nil	1031.8	<i>Oratosquilla interrupta</i>	High	2726
<i>Cynoglossus robustus</i>	High	906	<i>Venerupis philippinarum</i>	Low	2706.6
<i>Saurida tumbil</i>	Low	854	<i>Turricula javana</i>	Nil	2677.9
<i>Dasyatis zugei</i>	Low	842	<i>Charybdis affinis</i>	Nil	2664
2012 Dry			2012 Wet		
Species	Commercial value	Yield (g)	Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	517950	<i>Turritella terebra</i>	Low	932970
<i>Charybdis sp.</i>	Nil	8712	<i>Portunus pelagicus</i>	High	14172
<i>Venerupis philippinarum</i>	Low	7785	<i>Charybdis sp.</i>	Nil	10121
<i>Paphia undulata</i>	Low	5674	<i>Murex trapa</i>	Nil	5705.4
<i>Octopus sp.</i>	Low	5072	<i>hermit crab</i>	Nil	5191
<i>Balanus sp.</i>	Nil	4140	<i>Leiognathus brevirostris</i>	Medium	4128
<i>Fenneropenaeus merguiensis</i>	High	3442	<i>Trypauchen vagina</i>	Low	3984
<i>Acaudina molpadoides</i>	Nil	3130.8	<i>Cavernularia habereri</i>	Nil	3677.8
<i>hermit crab</i>	Nil	2889	<i>Acaudina molpadoides</i>	Nil	3261.8
<i>Platycephalus indicus</i>	Medium	2888	<i>Harpiosquilla harpax</i>	High	3072
<i>Temnopleurus toreumaticus</i>	Nil	2667.8	<i>Morula mutica</i>	Nil	2897.2
<i>Inquistor flavidula</i>	Nil	2395.3	<i>Nibea albiflora</i>	High	2848
<i>Morula mutica</i>	Nil	2343.9	<i>Venerupis philippinarum</i>	Low	2835.6
<i>Leiognathus brevirostris</i>	Medium	2042	<i>Platycephalus indicus</i>	Medium	2479
<i>Murex trapa</i>	Nil	1780.6	<i>Balanus sp.</i>	Nil	2458
<i>Charybdis feriata</i>	High	1750	<i>Inquistor flavidula</i>	Nil	2366.7
<i>Trypauchen vagina</i>	Low	1622	<i>Paphia undulata</i>	Low	2198.4
<i>Cynoglossus arel</i>	High	1510	<i>Scatophagus argus</i>	High	2114
<i>Crassostrea sp.</i>	Nil	1471	<i>Eucrate crenata</i>	Nil	2065.8
<i>Charybdis affinis</i>	Nil	1430	<i>Charybdis feriata</i>	High	2020

Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	1637140
<i>Fenneropenaeus merguiensis</i>	High	8890
<i>Charybdis sp.</i>	Nil	8000
<i>Platycephalus indicus</i>	Medium	5047
<i>hermit crab</i>	Nil	5021
<i>Dasyatis zugei</i>	Low	4538
<i>Cynoglossus arel</i>	High	3180
<i>Charybdis affinis</i>	Nil	2838
<i>Charybdis feriata</i>	High	2686
<i>Scapharca subcrenata</i>	Low	2661.6
<i>Balanus sp.</i>	Nil	2015
<i>Oratosquilla oratoria</i>	High	1936
<i>Leiognathus brevirostris</i>	Medium	1836
<i>Epinephelus bruneus</i>	High	1654
<i>Johnius belangerii</i>	Low	1448
<i>Acentrogobius caninus</i>	Low	1158
<i>Murex trapa</i>	Nil	1155.2
<i>Johnius amblycephalus</i>	Low	1150
<i>Pseudorhombus cinnamomeus</i>	Medium	982
<i>Cavernularia habereri</i>	Nil	925.1

Source of raw data: CEDD Contaminated Mud Pit EM&A data 2006-2013.

Total abundance of different species recorded from 2006 to 2013 in SCLKC marine park (TN station)

Species Group	Order	Family	Species	Abundance Recorded
Gastropod	Caenogastropoda	Turritellidae	<i>Turritella terebra</i>	141153
Crab	Decapoda	Portunidae	<i>Charybdis spp.</i>	29704
Barnacle	Sessilia	Balanidae	<i>Balanus sp.</i>	25612
Crab			hermit crab	11429
Bivalve	Veneroida	Veneridae	<i>Venerupis philippinarum</i>	11229
Gastropod	Neogastropoda	Muricidae	<i>Murex trapa</i>	10754
Gastropod	Neogastropoda	Nassariidae	<i>Nassarius succinctus</i>	10609
Gastropod	Neogastropoda	Muricidae	<i>Morula mutica</i>	5854
Echinoderm	Pennatulacea	Veretillidae	<i>Cavernularia habereri</i>	5496
Prawn or shrimp	Decapoda	Penaeidae	<i>Metapenaeus ensis</i>	5055
Bivalve	Veneroida	Veneridae	<i>Paphia undulata</i>	5037
Prawn or shrimp	Decapoda	Penaeidae	<i>Parapenaeopsis tenella</i>	4978
Bivalve	Veneroida	Tellinidae	<i>Macoma candida</i>	4912
Prawn or shrimp	Decapoda	Penaeidae	<i>Metapenaeus affinis</i>	4100
Bivalve	Arcoida	Arcidae	<i>Tegillarca nodifera</i>	4064
Echinoderm	Molpadida	Caudinidae	<i>Acaudina molpadioides</i>	3991
Mantis shrimp	Stomatopoda	Squillidae	<i>Oratosquilla interrupta</i>	3645
Gastropod	Gastropoda	Pseudomelatomidae	<i>Inquieritor flavidula</i>	3232
Fish	Perciformes	Gobiidae	<i>Trypauchen vagina</i>	2679
Crab	Decapoda	Dorippidae	<i>Paradorippe polita</i>	2676
Echinoderm	Camarodontia	Tenmopleuridae	<i>Tenmopleurus toreumaticus</i>	2675
Bivalve	Arcoida	Arcidae	<i>Anadara sativa</i>	2248
Bivalve	Arcoida	Arcidae	<i>Anadara ferruginea</i>	2222
Crab	Decapoda	Euryplacidae	<i>Eucrate crenata</i>	2111
Prawn or shrimp	Decapoda	Solenoceridae	<i>Solenocera crassicornis</i>	1532
Prawn or shrimp	Decapoda	Penaeidae	<i>Alcockpenaeopsis hungerfordii</i>	1355
Echinoderm	Actiniaria	Edwardsiidae	<i>Edwardsia japonica (c.f.)</i>	1317
Fish	Perciformes	Sciaenidae	<i>Johnius belangerii</i>	1136
Fish	Perciformes	Leiognathidae	<i>Leiognathus brevirostris</i>	1095
Fish	Pleuronectiformes	Cynoglossidae	<i>Cynoglossus arel</i>	1021
		Others		23298
		Total		336219

2006 Dry

Species	Commercial value	Abundance
<i>Charybdis affinis</i>	Nil	637
<i>Oratosquilla interrupta</i>	High	582
<i>Alcockpenaeopsis hungerfordii</i>	High	220
<i>Alephus digitalis</i>	Low	146
<i>Galene bispinosa</i>	Nil	140
<i>Solenocera crassicornis</i>	Medium	129
<i>Trypauchen vagina</i>	Low	117
<i>Charybdis sp.</i>	Nil	90
<i>Cynoglossus arel</i>	High	60
<i>Johnius belangerii</i>	Low	58
<i>Metapenaeopsis barbata</i>	High	51
<i>Oxyurichthys tentacularis</i>	Low	46
<i>Parachaeturichthys polynema</i>	Low	38
<i>Leiognathus brevirostris</i>	Medium	35
<i>Kumococcius rodericensis</i>	Low	32
<i>Oratosquilla nepa</i>	High	24
<i>Heikeopsis japonica</i>	Nil	17
<i>Hoplichthys langsdorffii</i>	Low	10
<i>Glossogobius giuris</i>	Low	8
<i>Oratosquilla oratoria</i>	High	7

2006 Wet

Species	Commercial value	Abundance
<i>Metapenaeus affinis</i>	High	644
<i>Oratosquilla interrupta</i>	High	494
<i>Alcockpenaeopsis hungerfordii</i>	High	321
<i>Trypauchen vagina</i>	Low	320
<i>Johnius belangerii</i>	Low	287
<i>Solenocera crassicornis</i>	Medium	228
<i>Ambassis gymnocephalus</i>	Low	227
<i>Turritella terebra</i>	Low	224
<i>Charybdis affinis</i>	Nil	220
<i>Metapenaeus ensis</i>	High	197
<i>Oratosquilla oratoria</i>	High	157
<i>Polydactylus sextarius</i>	Medium	143
<i>Platycephalus indicus</i>	Medium	107
<i>Parachaeturichthys polynema</i>	Low	104
<i>Cynoglossus arel</i>	High	97
hermit crab	Nil	91
<i>Sillago sihama</i>	High	70
<i>Portunus trituberculatus</i>	High	64
<i>Siganus canaliculatus</i>	Low	62
Sea Pen	Nil	60

2007 Dry

Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	988
<i>Molpadias roretzii</i>	Nil	626
<i>Cavernularia habereri</i>	Nil	492
<i>Charybdis affinis</i>	Nil	343
<i>Alcockpenaeopsis hungerfordii</i>	High	242
<i>Oratosquilla interrupta</i>	High	167
<i>Charybdis sp.</i>	Nil	148
<i>Eucrate crenata</i>	Nil	148
hermit crab	Nil	112
<i>Parachaeturichthys polynema</i>	Low	98
<i>Murex trapa</i>	Nil	96
<i>Johnius belangerii</i>	Low	89
<i>Alpheus sp.</i>	Low	67
<i>Solenocera crassicornis</i>	Medium	65
<i>Snakefish sp.1</i>	Low	61
<i>Oratosquilla oratoria</i>	High	55
<i>Cynoglossus arel</i>	High	49
<i>Nassarius succinctus</i>	Nil	49
<i>Alpheus digitalis</i>	Low	45
<i>Turricula nelliae</i>	Nil	34

2007 Wet

Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	10471
<i>Charybdis sp.</i>	Nil	7280
<i>Charybdis variegata</i>	Nil	4206
<i>Murex trapa</i>	Nil	2332
<i>Oratosquilla interrupta</i>	High	907
hermit crab	Nil	760
<i>Parapenaeopsis tenella</i>	Low	497
<i>Alcockpenaeopsis hungerfordii</i>	High	495
<i>Charybdis affinis</i>	Nil	423
<i>Johnius belangerii</i>	Low	323
<i>Molpadias roretzii</i>	Nil	316
<i>Metapenaeus affinis</i>	High	311
<i>Nassarius succinctus</i>	Nil	263
<i>Metapenaeopsis palmensis</i>	High	242
<i>Trypauchen vagina</i>	Low	233
<i>Platycephalus indicus</i>	Medium	231
<i>Metapenaeus ensis</i>	High	224
<i>Oratosquilla oratoria</i>	High	187
<i>Harpodon nehereus</i>	Medium	170
<i>Cavernularia habereri</i>	Nil	139

2008 Dry			2008 Wet		
Species	Commercial value	Abundance	Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	4180	<i>Turritella terebra</i>	Low	8406
<i>Charybdis sp.</i>	Nil	922	<i>Murex trapa</i>	Nil	1620
hermit crab	Nil	798	<i>Macoma candida</i>	Nil	1291
<i>Acaudina molpadiooides</i>	Nil	626	<i>Cavernularia habereri</i>	Nil	1282
<i>Parapenaeopsis tenella</i>	Low	539	<i>Charybdis sp.</i>	Nil	1179
<i>Cavernularia habereri</i>	Nil	512	hermit crab	Nil	1162
<i>Murex trapa</i>	Nil	417	<i>Paphia undulata</i>	Low	884
<i>Scapharca subcrenata</i>	Low	266	<i>Scapharca subcrenata</i>	Low	786
<i>Charybdis affinis</i>	Nil	238	<i>Metapenaeus affinis</i>	High	531
<i>Parachaetrichthys polynema</i>	Low	208	<i>Acaudina molpadiooides</i>	Nil	477
<i>Venerupis philippinarum</i>	Low	154	<i>Nassarius succinctus</i>	Nil	454
<i>Nassarius succinctus</i>	Nil	148	<i>Tegillarca nodifera</i>	Low	371
<i>Eucrate crenata</i>	Nil	130	<i>Trypauchen vagina</i>	Low	272
<i>Oratosquilla interrupta</i>	High	122	<i>Lophiotoma leucotropis</i>	Nil	213
<i>Temnopleurus toreumaticus</i>	Nil	108	<i>Ambassis gymnocephalus</i>	Low	157
<i>Cynoglossus arel</i>	High	99	<i>Oratosquilla interrupta</i>	High	155
<i>Metapenaeus affinis</i>	High	83	<i>Morula mutica</i>	Nil	144
<i>Macoma candida</i>	Nil	69	<i>Metapenaeus ensis</i>	High	136
<i>Solenocera crassicornis</i>	Medium	64	<i>Harpodon microchir</i>	Medium	128
<i>Lophiotoma leucotropis</i>	Nil	58	<i>Virgularia gustaviana</i>	Nil	126
2009 Dry			2009 Wet		
Species	Commercial value	Abundance	Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	5793	<i>Turritella terebra</i>	Low	22912
<i>Charybdis sp.</i>	Nil	883	<i>Charybdis sp.</i>	Nil	2935
hermit crab	Nil	828	<i>Anadara ferruginea</i>	Low	2169
<i>Murex trapa</i>	Nil	663	<i>Nassarius succinctus</i>	Nil	1408
<i>Nassarius succinctus</i>	Nil	608	hermit crab	Nil	1123
<i>Acaudina molpadiooides</i>	Nil	603	<i>Murex trapa</i>	Nil	1050
<i>Amphibalanus sp.</i>	Nil	578	<i>Paphia undulata</i>	Low	912
<i>Parapenaeopsis tenella</i>	Low	547	<i>Parapenaeopsis tenella</i>	Low	711
<i>Cavernularia habereri</i>	Nil	261	<i>Morula mutica</i>	Nil	654
<i>Charybdis feriata</i>	High	238	<i>Metapenaeus affinis</i>	High	609
<i>Eucrate crenata</i>	Nil	229	<i>Metapenaeus ensis</i>	High	489
<i>Charybdis affinis</i>	Nil	225	<i>Oratosquilla interrupta</i>	High	404
<i>Oratosquilla interrupta</i>	High	222	<i>Trypauchen vagina</i>	Low	362
<i>Tegillarca nodifera</i>	Low	217	<i>Scapharca subcrenata</i>	Low	362
<i>Paphia undulata</i>	Low	176	<i>Cavernularia habereri</i>	Nil	309
<i>Trypauchen vagina</i>	Low	132	<i>Macoma candida</i>	Nil	281
<i>Morula mutica</i>	Nil	119	<i>Charybdis affinis</i>	Nil	256
<i>Parachaetrichthys polynema</i>	Low	100	<i>Acaudina molpadiooides</i>	Nil	220
<i>Cynoglossus arel</i>	High	92	<i>Platycephalus indicus</i>	Medium	197
<i>Lophiotoma leucotropis</i>	Nil	89	<i>Temnopleurus toreumaticus</i>	Nil	190
2010 Dry			2010 Wet		
Species	Commercial value	Abundance	Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	11129	<i>Turritella terebra</i>	Low	9602
hermit crab	Nil	1501	<i>Venerupis philippinarum</i>	Low	4173
<i>Charybdis sp.</i>	Nil	1338	<i>Paphia undulata</i>	Low	2928
<i>Paphia undulata</i>	Low	1036	<i>Balanus sp.</i>	Nil	2888
<i>Balanus sp.</i>	Nil	1032	<i>Metapenaeus ensis</i>	High	2552
<i>Venerupis philippinarum</i>	Low	983	<i>Nassarius succinctus</i>	Nil	2490
<i>Nassarius succinctus</i>	Nil	894	<i>Macoma candida</i>	Nil	1704
<i>Murex trapa</i>	Nil	893	<i>Charybdis sp.</i>	Nil	1481
<i>Tegillarca nodifera</i>	Low	845	<i>Morula mutica</i>	Nil	1295
<i>Morula mutica</i>	Nil	779	<i>Murex trapa</i>	Nil	1137
<i>Parapenaeopsis tenella</i>	Low	604	hermit crab	Nil	988
<i>Scapharca subcrenata</i>	Low	552	<i>Tegillarca nodifera</i>	Low	940
<i>Acaudina molpadiooides</i>	Nil	394	<i>Scapharca subcrenata</i>	Low	568
<i>Solenocera crassicornis</i>	Medium	394	<i>Metapenaeus affinis</i>	High	511
<i>Charybdis affinis</i>	Nil	363	<i>Acaudina molpadiooides</i>	Nil	491
<i>Macoma candida</i>	Nil	235	<i>Charybdis affinis</i>	Nil	425
<i>Eucrate crenata</i>	Nil	194	<i>Cavernularia habereri</i>	Nil	318
<i>Inquistor flavidula</i>	Nil	189	<i>Trypauchen vagina</i>	Low	242
<i>Pentaprion longimanus</i>	Low	146	<i>Inquistor flavidula</i>	Nil	180
<i>Amphibalanus sp.</i>	Nil	143	<i>Oratosquilla interrupta</i>	High	163
2011 Dry			2011 Wet		
Species	Commercial value	Abundance	Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	10357	<i>Turritella terebra</i>	Low	7330
<i>Balanus sp.</i>	Nil	3186	<i>Balanus sp.</i>	Nil	3122
<i>Venerupis philippinarum</i>	Low	2708	<i>Nassarius succinctus</i>	Nil	2600
<i>Paphia undulata</i>	Low	894	<i>Paphia undulata</i>	Low	2074
<i>Charybdis sp.</i>	Nil	828	<i>Charybdis sp.</i>	Nil	1442
<i>Morula mutica</i>	Nil	806	<i>Inquistor flavidula</i>	Nil	1221
hermit crab	Nil	581	<i>Murex trapa</i>	Nil	1178
<i>Inquistor flavidula</i>	Nil	525	<i>Metapenaeus affinis</i>	High	1104
<i>Charybdis affinis</i>	Nil	480	hermit crab	Nil	1027
<i>Parapenaeopsis tenella</i>	Low	274	<i>Morula mutica</i>	Nil	980
<i>Nassarius succinctus</i>	Nil	272	<i>Tegillarca nodifera</i>	Low	945
<i>Murex trapa</i>	Nil	238	<i>Temnopleurus toreumaticus</i>	Nil	807
<i>Macoma candida</i>	Nil	157	<i>Cavernularia habereri</i>	Nil	596
<i>Cavernularia habereri</i>	Nil	134	<i>Charybdis affinis</i>	Nil	574
<i>Solenocera crassicornis</i>	Medium	112	<i>Metapenaeus ensis</i>	High	524
<i>Eucrate crenata</i>	Nil	76	<i>Eucrate crenata</i>	Nil	442
<i>Cynoglossus arel</i>	High	75	<i>Chione isabellina</i>	Nil	391
<i>Chione isabellina</i>	Nil	73	<i>Parapenaeopsis tenella</i>	Low	389
<i>Acaudina molpadiooides</i>	Nil	72	<i>Scapharca subcrenata</i>	Low	380
<i>Tegillarca nodifera</i>	Low	70	<i>Acaudina molpadiooides</i>	Nil	373

2012 Dry			2012 Wet		
Species	Commercial value	Abundance	Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	17009	<i>Turritella terebra</i>	Low	14189
<i>Balanus sp.</i>	Nil	7000	<i>Balanus sp.</i>	Nil	4192
<i>Venerupis philippinarum</i>	Low	1525	<i>Scapharca subcrenata</i>	Low	1334
<i>Temnopleurus toreumaticus</i>	Nil	1217	<i>Edwardsia japonica</i>	Nil	1314
<i>Paphia undulata</i>	Low	1020	<i>Charybdis sp.</i>	Nil	1057
<i>Charybdis sp.</i>	Nil	832	<i>Venerupis philippinarum</i>	Low	891
hermit crab	Nil	761	hermit crab	Nil	870
<i>Morula mutica</i>	Nil	364	<i>Nassarius succinctus</i>	Nil	860
<i>Nassarius succinctus</i>	Nil	336	<i>Cavernularia habereri</i>	Nil	784
<i>Cavernularia habereri</i>	Nil	327	<i>Macoma candida</i>	Nil	769
<i>Parapenaeopsis tenella</i>	Low	261	<i>Inquistor flavidula</i>	Nil	752
<i>Acaudina molpadiooides</i>	Nil	237	<i>Metapenaeus ensis</i>	High	668
<i>Inquistor flavidula</i>	Nil	235	<i>Murex trapa</i>	Nil	626
<i>Crassostrea sp.</i>	Nil	217	<i>Parapenaeopsis tenella</i>	Low	586
<i>Murex trapa</i>	Nil	150	<i>Tegillarca nodifera</i>	Low	484
<i>Tegillarca nodifera</i>	Low	144	<i>Morula mutica</i>	Nil	428
<i>Trypauchen vagina</i>	Low	113	<i>Solenocera crassicornis</i>	Medium	417
<i>Eucrate crenata</i>	Nil	86	<i>Trypauchen vagina</i>	Low	402
<i>Charybdis affinis</i>	Nil	82	<i>Acaudina molpadiooides</i>	Nil	396
<i>Leiognathus brevirostris</i>	Medium	62	<i>Ostrea sp.</i>	Low	381

2013 Dry		
Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	18560
<i>Balanus sp.</i>	Nil	3160
<i>Charybdis sp.</i>	Nil	1043
hermit crab	Nil	824
<i>Venerupis philippinarum</i>	Low	492
<i>Inquistor flavidula</i>	Nil	391
<i>Leiognathus brevirostris</i>	Medium	359
<i>Parapenaeopsis tenella</i>	Low	337
<i>Murex trapa</i>	Nil	325
<i>Cavernularia habereri</i>	Nil	265
<i>Morula mutica</i>	Nil	258
<i>Nassarius succinctus</i>	Nil	227
<i>Charybdis affinis</i>	Nil	171
<i>Temnopleurus toreumaticus</i>	Nil	166
<i>Nibea albiloba</i>	High	126
<i>Scapharca subcrenata</i>	Low	114
<i>Metapenaeus ensis</i>	High	102
<i>Acaudina molpadiooides</i>	Nil	102
<i>Collichthys lucidus</i>	High	87
<i>Johnius amblycephalus</i>	Low	85

Source of raw data: CEDD Contaminated Mud Pit EM&A data 2006-2013.

Total yield of different species recorded from 2006 to 2013 in SCLKC marine park (TN station)

Species Group	Order	Family	Species	Yield Recorded (g)
Gastropod	Caenogastropoda	Turritellidae	<i>Turritella terebra</i>	1110086.9
Crab	Decapoda	Portunidae	<i>Charybdis spp.</i>	234754.0
Echinoderm	Molpadida	Caudinidae	<i>Acaudina molpadiooides</i>	146956.0
Bivalve	Arcoida	Arcidae	<i>Anadara sativa</i>	103609.1
Gastropod	Neogastropoda	Muricidae	<i>Murex trapa</i>	70173.6
Mantis shrimp	Stomatopoda	Squillidae	<i>Oratosquilla interrupta</i>	61572.9
Bivalve	Veneroida	Veneridae	<i>Venerupis philippinarum</i>	55159.0
Crab			hermit crab	43839.5
Gastropod	Neogastropoda	Muricidae	<i>Morula mutica</i>	33615.1
Prawn or shrimp	Decapoda	Penaeidae	<i>Metapenaeus ensis</i>	30972.4
Bivalve	Veneroida	Veneridae	<i>Paphia undulata</i>	29034.0
Prawn or shrimp	Decapoda	Penaeidae	<i>Metapenaeus affinis</i>	28586.1
Bivalve	Veneroida	Tellinidae	<i>Macoma candida</i>	27758.2
Fish	Scorpaeniformes	Platycephalidae	<i>Platycephalus indicus</i>	27060.7
Echinoderm	Pennatulacea	Veretillidae	<i>Cavernularia habereri</i>	26444.1
Fish	Perciformes	Gobiidae	<i>Trypauchen vagina</i>	25070.3
Prawn or shrimp	Decapoda	Penaeidae	<i>Parapenaeopsis tenella</i>	23449.8
Fish	Perciformes	Sciaenidae	<i>Johnius belangerii</i>	21153.3
Echinoderm	Camarodontida	Temnopleuridae	<i>Temnopleurus toreumaticus</i>	20129.6
Bivalve	Arcoida	Arcidae	<i>Tegillarca nodifera</i>	19051.8
Gastropod	Neogastropoda	Nassariidae	<i>Nassarius succinctus</i>	18574.5
Fish	Pleuronectiformes	Cynoglossidae	<i>Cynoglossus arel</i>	17017.5
Crab	Decapoda	Portunidae	<i>Portunus trituberculatus</i>	15098.5
Crab	Decapoda	Euryplacidae	<i>Eucrate crenata</i>	14819.1
Echinoderm	Actiniaria	Edwardsiidae	<i>Edwardsia japonica (c.f.)</i>	14472.0
Crab	Decapoda	Dorippidae	<i>Paradorippe polita</i>	14264.4
Echinoderm	Molpadida	Molpadiidae	<i>Molpadia roretzii</i>	12586.6
Mantis shrimp	Stomatopoda	Squillidae	<i>Oratosquilla oratoria</i>	12523.3
Cnidarian	Pennatulacea	Pennatulidae	<i>Pteroeides chinense</i>	11753.9
Fish	Perciformes	Sciaenidae	<i>Johnius amblycephalus</i>	11587.3
			Others	279050.6
			Total	2560224.1

2006 Dry

Species	Commercial value	Yield (g)
<i>Charybdis affinis</i>	Nil	14139.5
<i>Oratosquilla interrupta</i>	High	9990.1
<i>Galene bispinosa</i>	Nil	3610.7
<i>Charybdis sp.</i>	Nil	3275.1
<i>Johnius belangerii</i>	Low	1821.4
<i>Trypauchen vagina</i>	Low	1223.5
<i>Alcockpenaeopsis hungerfordii</i>	High	1085.9
<i>Alephus digitalis</i>	Low	876.1
<i>Cynoglossus arel</i>	High	852.2
<i>Muraenesox cinereus</i>	Medium	470
<i>Oxyurichthys tentacularis</i>	Low	453.4
<i>Solenocera crassicornis</i>	Medium	400.2
<i>Parachaeturichthys polynema</i>	Low	377.2
<i>Leiognathus brevirostris</i>	Medium	339.4
<i>Platycephalus indicus</i>	Medium	302.9
<i>Metapenaeopsis barbata</i>	High	251.5
<i>Oratosquilla nepa</i>	High	220.2
<i>Heikeopsis japonica</i>	Nil	150.9
<i>Pampus argenteus</i>	High	146
<i>Kumococius rodericensis</i>	Low	108.3

2006 Wet

Species	Commercial value	Yield (g)
<i>Oratosquilla interrupta</i>	High	7532.1
<i>Metapenaeus affinis</i>	High	4823.6
<i>Portunus trituberculatus</i>	High	4761.8
<i>Johnius belangerii</i>	Low	4742.2
<i>Charybdis affinis</i>	Nil	3349
<i>Trypauchen vagina</i>	Low	2791.5
<i>Turritella terebra</i>	Low	2496.5
<i>Oratosquilla oratoria</i>	High	1807
<i>Alcockpenaeopsis hungerfordii</i>	High	1768.9
<i>Scapharca subcrenata</i>	Low	1612.4
<i>Metapenaeus ensis</i>	High	1522.9
<i>Portunus pelagicus</i>	High	1502.4
<i>Platycephalus indicus</i>	Medium	1458.3
<i>Sillago sihama</i>	High	1353.3
<i>Cynoglossus arel</i>	High	992.4
<i>Harpiosquilla harpax</i>	High	915.9
<i>Johnius amblycephalus</i>	Low	880.5
<i>Parachaeturichthys polynema</i>	Low	863.6
<i>Harpodon nehereus</i>	Medium	855.4
<i>Polydactylus sextarius</i>	Medium	713.3

2007 Dry

Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	7284.9
<i>Molpadia roretzii</i>	Nil	6508.9
<i>Charybdis affinis</i>	Nil	6207.2
<i>Lateolabrax japonicus</i>	High	3900
<i>Cavernularia habereri</i>	Nil	3001.9
<i>Oratosquilla interrupta</i>	High	2805.7
<i>Johnius belangerii</i>	Low	2136.1
<i>Eucrate crenata</i>	Nil	1874.5
<i>Scapharca subcrenata</i>	Low	1120
<i>Alcockpenaeopsis hungerfordii</i>	High	1106.7
<i>Charybdis sp.</i>	Nil	916.2
<i>Oratosquilla oratoria</i>	High	908.7
<i>Murex trapa</i>	Nil	827.8
<i>Snakefish sp.1</i>	Low	816.9
<i>Parachaeturichthys polynema</i>	Low	816.4
<i>Cynoglossus arel</i>	High	767.2
<i>Collichthys lucidus</i>	High	749.3
<i>Platycephalus indicus</i>	Medium	556.9
<i>Charybdis feriata</i>	High	461.7
<i>Pinctada imbricata</i>	Nil	420.2

2007 Wet

Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	46600
<i>Charybdis sp.</i>	Nil	31920
<i>Charybdis variegata</i>	Nil	18270
<i>Murex trapa</i>	Nil	12476.3
<i>Oratosquilla interrupta</i>	High	12293.8
<i>Molpadia roretzii</i>	Nil	6077.7
<i>Johnius belangerii</i>	Low	6068.4
<i>Charybdis affinis</i>	Nil	4890.9
<i>Portunus pelagicus</i>	High	4263.2
<i>hermit crab</i>	Nil	3640.3
<i>Harpodon nehereus</i>	Medium	3585.2
<i>Metapenaeus affinis</i>	High	3380.6
<i>Parapenaeopsis tenella</i>	Low	2793
<i>Platycephalus indicus</i>	Medium	2778.4
<i>Oratosquilla oratoria</i>	High	2509.9
<i>Metapenaeopsis palmensis</i>	High	2289.2
<i>Trypauchen vagina</i>	Low	2269.6
<i>Alcockpenaeopsis hungerfordii</i>	High	2164.4
<i>Johnius amblycephalus</i>	Low	1808
<i>Galene bispinosa</i>	Nil	1777.9

2008 Dry

Species	Commercial value	Yield (g)
<i>Acaudina molpadiooides</i>	Nil	27547
<i>Turritella terebra</i>	Low	22798.1
<i>Scapharca subcrenata</i>	Low	7212
<i>Charybdis affinis</i>	Nil	5557.6
<i>Mastigias sp.</i>	Nil	5440
<i>Charybdis sp.</i>	Nil	5326.2
<i>hermit crab</i>	Nil	3524.1
<i>Cavernularia habereri</i>	Nil	2968.5
<i>Parapenaeopsis tenella</i>	Low	2575.1
<i>Murex trapa</i>	Nil	2451
<i>Cynoglossus arel</i>	High	1692.4
<i>Oratosquilla interrupta</i>	High	1687.9
<i>Parachaeturichthys polynema</i>	Low	1355.6
<i>Metapenaeus affinis</i>	High	1157.2
<i>Temnopleurus toreumaticus</i>	Nil	1120.8
<i>Platycephalus indicus</i>	Medium	1087.1
<i>Venerupis philippinarum</i>	Low	808.3
<i>Charybdis feriata</i>	High	781.6
<i>Eucrate crenata</i>	Nil	754
<i>Johnius belangerii</i>	Low	666

2008 Wet

Species	Commercial value	Yield (g)
<i>Scapharca subcrenata</i>	Low	52271.2
<i>Turritella terebra</i>	Low	49283.2
<i>Murex trapa</i>	Nil	12017.6
<i>Macoma candida</i>	Nil	9986.6
<i>Acaudina molpadiooides</i>	Nil	9444.1
<i>Harpodon microchir</i>	Medium	8073.2
<i>Charybd</i>		

2009 Dry			2009 Wet		
Species	Commercial value	Yield (g)	Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	42437	<i>Turritella terebra</i>	Low	154054
<i>Acaudina molpadiooides</i>	Nil	27070	<i>Charybdis sp.</i>	Nil	15884
<i>Charybdis affinis</i>	Nil	6935.9	<i>Scapharca subcrenata</i>	Low	12215.2
<i>Charybdis sp.</i>	Nil	5784	<i>Anadara ferruginea</i>	Low	9809
<i>Oratosquilla interrupta</i>	High	4801.4	<i>Oratosquilla interrupta</i>	High	7065
<i>Murex trapa</i>	Nil	4281.8	<i>Murex trapa</i>	Nil	7050
hermit crab	Nil	3106	<i>Portunus pelagicus</i>	High	6170
<i>Parapenaeopsis tenella</i>	Low	2992.8	<i>Acaudina molpadiooides</i>	Nil	6001.1
<i>Chelon macrolepis</i>	Low	2018.7	<i>Paphia undulata</i>	Low	5061
<i>Eucrate crenata</i>	Nil	2000.1	Jelly fish	Nil	4836.4
<i>Charybdis feriata</i>	High	1855.2	<i>Platycephalus indicus</i>	Medium	4695
<i>Cynoglossus arel</i>	High	1837.4	hermit crab	Nil	4358
<i>Platycephalus indicus</i>	Medium	1599.3	<i>Charybdis affinis</i>	Nil	4260
<i>Trypauchen vagina</i>	Low	1304.8	<i>Morula mutica</i>	Nil	3733.3
<i>Cavernularia habereri</i>	Nil	1283.4	<i>Trypauchen vagina</i>	Low	3555
<i>Scapharca subcrenata</i>	Low	1268.4	<i>Parapenaeopsis tenella</i>	Low	3417
<i>Octopus sp.</i>	Low	1267.4	<i>Metapenaeus affinis</i>	High	3365
<i>Tegillarca nodifera</i>	Low	1061	<i>Harpodon nehereus</i>	Medium	2580
<i>Fenneropenaeus penicillatus</i>	High	961	<i>Metapenaeus ensis</i>	High	2500
<i>Dasyatis zugei</i>	Low	898.2	<i>Johnius amblycephalus</i>	Low	2200
2010 Dry			2010 Wet		
Species	Commercial value	Yield (g)	Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	101772	<i>Turritella terebra</i>	Low	91204
<i>Scapharca subcrenata</i>	Low	28316	<i>Scapharca subcrenata</i>	Low	31720
<i>Acaudina molpadiooides</i>	Nil	22166.8	<i>Venerupis philippinarum</i>	Low	20377
<i>Charybdis sp.</i>	Nil	12685	<i>Paphia undulata</i>	Low	16748
<i>Charybdis affinis</i>	Nil	9095	<i>Acaudina molpadiooides</i>	Nil	14911
hermit crab	Nil	5564	<i>Metapenaeus ensis</i>	High	12465
<i>Murex trapa</i>	Nil	5347	<i>Charybdis sp.</i>	Nil	11645
<i>Paphia undulata</i>	Low	5293.2	<i>Macoma candida</i>	Nil	8229
<i>Venerupis philippinarum</i>	Low	5036.4	<i>Morula mutica</i>	Nil	7984.6
<i>Tegillarca nodifera</i>	Low	3772.2	<i>Murex trapa</i>	Nil	7295
<i>Morula mutica</i>	Nil	3371.2	<i>Charybdis affinis</i>	Nil	6540
<i>Parapenaeopsis tenella</i>	Low	2765	<i>Tegillarca nodifera</i>	Low	4648
Jelly fish	Nil	2664	<i>Oratosquilla interrupta</i>	High	3390
<i>Oratosquilla interrupta</i>	High	2445	hermit crab	Nil	3321.2
<i>Nassarius succinctus</i>	Nil	1847.6	<i>Nassarius succinctus</i>	Nil	3321
<i>Solenocera crassicornis</i>	Medium	1754	<i>Metapenaeus affinis</i>	High	2495
<i>Eucrate crenata</i>	Nil	1556.1	<i>Trypauchen vagina</i>	Low	2170
<i>Pentaprion longimanus</i>	Low	1165	<i>Johnius belangerii</i>	Low	1855
<i>Lateolabrax japonicus</i>	High	1130	<i>Platycephalus indicus</i>	Medium	1840
<i>Macoma candida</i>	Nil	1044	<i>Cavernularia habereri</i>	Nil	1823.8
2011 Dry			2011 Wet		
Species	Commercial value	Yield (g)	Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	70289	<i>Turritella terebra</i>	Low	68032
<i>Venerupis philippinarum</i>	Low	10669	<i>Scapharca subcrenata</i>	Low	20164
<i>Charybdis affinis</i>	Nil	9202	<i>Paphia undulata</i>	Low	13280
<i>Charybdis sp.</i>	Nil	6230	<i>Acaudina molpadiooides</i>	Nil	12916
<i>Acaudina molpadiooides</i>	Nil	5172	<i>Portunus trituberculatus</i>	High	12384
<i>Paphia undulata</i>	Low	4894	<i>Charybdis sp.</i>	Nil	10605
<i>Morula mutica</i>	Nil	4271	<i>Charybdis affinis</i>	Nil	8346
hermit crab	Nil	2225	<i>Murex trapa</i>	Nil	8309
<i>Scapharca subcrenata</i>	Low	1552	<i>Morula mutica</i>	Nil	6806
<i>Balanus sp.</i>	Nil	1485	<i>Metapenaeus affinis</i>	High	5996
<i>Murex trapa</i>	Nil	1484.2	<i>Temnopileurus toreumaticus</i>	Nil	5295
<i>Cynoglossus arel</i>	High	1368	<i>Nassarius succinctus</i>	Nil	5042
<i>Parapenaeopsis tenella</i>	Low	1118	<i>Tegillarca nodifera</i>	Low	4653
<i>Inquisitor flavidula</i>	Nil	1064.4	hermit crab	Nil	4150
<i>Cavernularia habereri</i>	Nil	752.2	<i>Metapenaeus ensis</i>	High	4076
<i>Macoma candida</i>	Nil	752	<i>Oratosquilla interrupta</i>	High	3156
<i>Platycephalus indicus</i>	Medium	708	<i>Cavernularia habereri</i>	Nil	2633.2
<i>Johnius amblycephalus</i>	Low	682	<i>Eucrate crenata</i>	Nil	2507
<i>Dasyatis akajei</i>	Low	650	<i>Inquisitor flavidula</i>	Nil	2297
<i>Eucrate crenata</i>	Nil	605	<i>Trypauchen vagina</i>	Low	2232
2012 Dry			2012 Wet		
Species	Commercial value	Yield (g)	Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	153497	<i>Turritella terebra</i>	Low	131498
<i>Venerupis philippinarum</i>	Low	9040	<i>Scapharca subcrenata</i>	Low	42198.2
<i>Charybdis sp.</i>	Nil	8577	<i>Edwardsia japonica</i>	Nil	14454.4
<i>Temnopileurus toreumaticus</i>	Nil	8161	<i>Acaudina molpadiooides</i>	Nil	14440
<i>Paphia undulata</i>	Low	5994	<i>Portunus trituberculatus</i>	High	11736
<i>Balanus sp.</i>	Nil	3312	<i>Charybdis sp.</i>	Nil	9764
<i>Acaudina molpadiooides</i>	Nil	3289	<i>Murex trapa</i>	Nil	5088
hermit crab	Nil	2643	<i>Venerupis philippinarum</i>	Low	4873
<i>Scapharca subcrenata</i>	Low	2142.4	<i>Cavernularia habereri</i>	Nil	4596.8
<i>Morula mutica</i>	Nil	1928.6	<i>Metapenaeus ensis</i>	High	4453
<i>Charybdis affinis</i>	Nil	1810	<i>Macoma candida</i>	Nil	3998.9
<i>Cavernularia habereri</i>	Nil	1221.8	<i>Trypauchen vagina</i>	Low	3502
<i>Parapenaeopsis tenella</i>	Low	1090	hermit crab	Nil	3143
<i>Octopus sp.</i>	Low	1010	<i>Morula mutica</i>	Nil	2513.6
<i>Murex trapa</i>	Nil	1001.8	<i>Tegillarca nodifera</i>	Low	2417.2
<i>Crassostrea sp.</i>	Nil	996.5	<i>Oratosquilla interrupta</i>	High	2262
<i>Trypauchen vagina</i>	Low	958	<i>Eucrate crenata</i>	Nil	2257.4
<i>Fenneropenaeus merguiensis</i>	High	856	<i>Oratosquilla oratoria</i>	High	2174
<i>Johnius amblycephalus</i>	Low	810	<i>Parapenaeopsis tenella</i>	Low	2086
<i>Cynoglossus arel</i>	High	784	<i>Balanus sp.</i>	Nil	2049

Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	168820
<i>Charybdis sp.</i>	Nil	8253
<i>Scapharca subcrenata</i>	Low	5087.6
<i>Platycephalus indicus</i>	Medium	4130
<i>Acaudina molpadoides</i>	Nil	3999
<i>Charybdis affinis</i>	Nil	3946
hermit crab	Nil	2926
<i>Venerupis philippinarum</i>	Low	2790
<i>Leiognathus brevirostris</i>	Medium	2574
<i>Nibea albiflora</i>	High	2434
<i>Murex trapa</i>	Nil	2309.2
<i>Parapenaeopsis tenella</i>	Low	1798
<i>Collichthys lucidus</i>	High	1720
<i>Balanus sp.</i>	Nil	1499.8
<i>Cynoglossus arel</i>	High	1484
<i>Morula mutica</i>	Nil	1463.6
<i>Temnopleurus toreumaticus</i>	Nil	1396.2
<i>Chrysochir aureus</i>	High	1388
<i>Fennneropenaeus merguiensis</i>	High	1342
<i>Metapenaeus ensis</i>	High	1322

Source of raw data: CEDD Contaminated Mud Pit EM&A data 2006-2013.

Total abundance of different species recorded from 2006 to 2013 in western Lantau water (TS station)

Species Group	Order	Family	Species	Abundance Recorded
Gastropod	Caenogastropoda	Turritellidae	<i>Turritella terebra</i>	391010
Barnacle	Sessilia	Balanidae	<i>Balanus sp.</i>	29276
Bivalve	Arcoida	Arcidae	<i>Anadara ferruginea</i>	28803
Crab	Decapoda	Portunidae	<i>Charybdis spp.</i>	24468
Gastropod	Neogastropoda	Nassariidae	<i>Nassarius succinctus</i>	20385
Bivalve	Arcoida	Arcidae	<i>Tegillarca nodifera</i>	16163
Gastropod	Neogastropoda	Muricidae	<i>Murex trapa</i>	15381
Bivalve	Veneroida	Veneridae	<i>Paphia undulata</i>	14209
Crab			hermit crab	12759
Bivalve	Arcoida	Arcidae	<i>Anadara sativa</i>	10084
Bivalve	Veneroida	Tellinidae	<i>Macoma candida</i>	9246
Echinoderm	Camarodontata	Temnopleuridae	<i>Temnopleurus toreumaticus</i>	7033
Gastropod	Neogastropoda	Muricidae	<i>Morula mutica</i>	4737
Gastropod	Gastropoda	Pseudomelatomidae	<i>Inquistor flavidula</i>	4665
Bivalve	Veneroida	Veneridae	<i>Chione isabellina</i>	3871
Crab	Decapoda	Dorippidae	<i>Paradorippe polita</i>	3768
Fish	Perciformes	Leiognathidae	<i>Leiognathus brevirostris</i>	2237
Echinoderm	Pennatulacea	Veretillidae	<i>Cavernularia habereri</i>	1844
Fish	Perciformes	Sciaenidae	<i>Johnius belangerii</i>	1813
Bivalve	Veneroida	Veneridae	<i>Venerupis philippinarum</i>	1706
Prawn or shrimp	Decapoda	Penaeidae	<i>Metapenaeus ensis</i>	1682
Echinoderm	Molpadida	Caudinidae	<i>Acaudina molpadioides</i>	1678
Prawn or shrimp	Decapoda	Penaeidae	<i>Metapenaeus affinis</i>	1612
Crab	Decapoda	Euryplacidae	<i>Eucrete crenata</i>	1607
Barnacle	Sessilia	Balanidae	<i>Amphibalanus sp.</i>	1353
Mantis shrimp	Stomatopoda	Squillidae	<i>Oratosquilla interrupta</i>	1317
Fish	Perciformes	Gobiidae	<i>Trypauchen vagina</i>	1191
Mantis shrimp	Stomatopoda	Squillidae	<i>Oratosquilla oratoria</i>	1158
Gastropod	Neogastropoda	Clavatulidae	<i>Turridula nelliae</i>	1113
Prawn or shrimp	Decapoda	Penaeidae	<i>Parapenaeopsis tenella</i>	1010
			Others	29014
			Total	646193

2006 Dry

Species	Commercial value	Abundance
<i>Charybdis affinis</i>	Nil	441
<i>Johnius belangerii</i>	Low	174
<i>Solenocera crassicornis</i>	Medium	101
<i>Alcockpenaeopsis hungerfordii</i>	High	98
<i>Cynoglossus arel</i>	High	94
<i>Oratosquilla interrupta</i>	High	83
<i>Parachaeturichthys polynema</i>	Low	78
<i>Harpiosquilla harpax</i>	High	73
<i>Oxyurichthys tentacularis</i>	Low	53
<i>Alephus digitalis</i>	Low	49
<i>Trypauchen vagina</i>	Low	26
<i>Leiognathus brevirostris</i>	Medium	24
<i>Turritella terebra</i>	Low	20
<i>Polydactylus sextarius</i>	Medium	18
<i>Ochetostoma erythrogrammon</i>	Nil	16
<i>Anadara ferruginea</i>	Low	13
<i>Heikeopsis japonica</i>	Nil	13
<i>Paphia undulata</i>	Low	12
<i>Oratosquilla oratoria</i>	High	11
<i>Galene bispinosa</i>	Nil	10

2006 Wet

Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	1184
<i>Alcockpenaeopsis hungerfordii</i>	High	250
<i>Leiognathus brevirostris</i>	Medium	203
<i>Temnopleurus toreumaticus</i>	Nil	179
<i>Charybdis affinis</i>	Nil	173
<i>Oratosquilla interrupta</i>	High	145
<i>Murex trapa</i>	Nil	124
<i>Paphia undulata</i>	Low	118
<i>Johnius belangerii</i>	Low	115
<i>Oxyurichthys tentacularis</i>	Low	108
<i>Metapenaeus affinis</i>	High	108
hermit crab	Nil	107
<i>Platycephalus indicus</i>	Medium	89
<i>Johnius ambycephalus</i>	Low	88
<i>Metapenaeus ensis</i>	High	83
<i>Fenneropenaeus penicillatus</i>	High	57
<i>Terapon theraps</i>	Low	48
<i>Enoplolambrus validus</i>	Nil	45
<i>Parachaeturichthys polynema</i>	Low	44
<i>Cynoglossus arel</i>	High	43

2007 Dry

Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	10778
<i>Temnopleurus toreumaticus</i>	Nil	1337
<i>Anadara ferruginea</i>	Low	1312
<i>Charybdis sp.</i>	Nil	1042
<i>Murex trapa</i>	Nil	919
<i>Charybdis affinis</i>	Nil	547
<i>Nassarius succinctus</i>	Nil	484
hermit crab	Nil	470
<i>Pinctada imbricata</i>	Nil	432
<i>Paphia undulata</i>	Low	238
<i>Cavernularia habereri</i>	Nil	214
<i>Oratosquilla oratoria</i>	High	195
<i>Johnius belangerii</i>	Low	188
<i>Scapharca subcrenata</i>	Low	186
<i>Solenocera crassicornis</i>	Medium	155
<i>Metapenaeus ensis</i>	High	139
<i>Indothais lacera</i>	Nil	131
<i>Liza affinis</i>	Medium	118
<i>Chlamys nobilis</i>	Low	110
<i>Johnius ambycephalus</i>	Low	77

2007 Wet

Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	18550
<i>Charybdis sp.</i>	Nil	6730
<i>Murex trapa</i>	Nil	3259
<i>Charybdis variegata</i>	Nil	1533
<i>Anadara ferruginea</i>	Low	1100
hermit crab	Nil	809
<i>Nassarius succinctus</i>	Nil	607
<i>Macoma candida</i>	Nil	381
<i>Metapenaeus affinis</i>	High	328
<i>Fenneropenaeus penicillatus</i>	High	280
<i>Paphia undulata</i>	Low	272
<i>Oratosquilla interrupta</i>	High	261
<i>Ambassis gymnocephalus</i>	Low	246
<i>Charybdis affinis</i>	Nil	199
<i>Johnius belangerii</i>	Low	194
<i>Platycephalus indicus</i>	Medium	178
<i>Vepricardium asiaticum</i>	Nil	155
<i>Metapenaeopsis palmensis</i>	High	140
<i>Leiognathus brevirostris</i>	Medium	127
<i>Molpadias roretzii</i>	Nil	102

2008 Dry

Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	15156
<i>Paphia undulata</i>	Low	1308
<i>Nassarius succinctus</i>	Nil	1194
<i>Charybdis sp.</i>	Nil	1049
<i>Scapharca subcrenata</i>	Low	968
<i>Murex trapa</i>	Nil	833
hermit crab	Nil	698
<i>Anadara ferruginea</i>	Low	638
<i>Polydactylus sextarius</i>	Medium	593
<i>Temnopleurus toreumaticus</i>	Nil	553
<i>Nibea soldado</i>	High	502
<i>Chelon macrolepis</i>	Low	219
<i>Charybdis affinis</i>	Nil	192
<i>Chione isabellina</i>	Nil	117
<i>Oratosquilla oratoria</i>	High	113
<i>Pinctada imbricata</i>	Nil	101
<i>Cynoglossus arel</i>	High	79
<i>Harpiosquilla harpax</i>	High	72
<i>Johnius belangerii</i>	Low	70
<i>Lophiotoma leucotropis</i>	Nil	68

2008 Wet

Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	35340
<i>Paphia undulata</i>	Low	4270
<i>Tegillarca nodifera</i>	Low	2708
<i>Macoma candida</i>	Nil	2571
<i>Nassarius succinctus</i>	Nil	2229
hermit crab	Nil	1483
<i>Murex trapa</i>	Nil	1379
<i>Scapharca subcrenata</i>	Low	1104
<i>Charybdis sp.</i>	Nil	1044
<i>Acaudina molpadioides</i>	Nil	589
<i>Chione isabellina</i>	Nil	550
<i>Cavernularia habereri</i>	Nil	489
<i>Turridula nelliae</i>	Nil	453
<i>Metapenaeus ensis</i>	High	402
<i>Leiognathus brevirostris</i>	Medium	348
<i>Chlorostoma rustica</i>	Low	303
<i>Morula mutica</i>	Nil	268
<i>Fenneropenaeus penicillatus</i>	High	235
<i>Nassarius hepaticus</i>	Nil	191
<i>Lophiotoma leucotrop</i>		

2009 Dry			2009 Wet		
Species	Commercial value	Abundance	Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	13958	<i>Turritella terebra</i>	Low	37580
<i>Paphia undulata</i>	Low	1824	<i>Anadara ferruginea</i>	Low	25693
<i>Nassarius succinctus</i>	Nil	1288	<i>Scapharca subcrenata</i>	Low	2958
<i>Charybdis sp.</i>	Nil	917	<i>Paphia undulata</i>	Low	2746
<i>Tegillarca nodifera</i>	Low	906	<i>Nassarius succinctus</i>	Nil	1853
<i>Murex trapa</i>	Nil	872	<i>Charybdis sp.</i>	Nil	1353
hermit crab	Nil	856	hermit crab	Nil	1046
<i>Tegillarca granosa</i>	Low	856	<i>Murex trapa</i>	Nil	962
<i>Johnius belangerii</i>	Low	621	<i>Macoma candida</i>	Nil	873
<i>Scapharca subcrenata</i>	Low	264	<i>Chione isabellina</i>	Nil	622
<i>Oratosquilla oratoria</i>	High	260	<i>Parapenaeopsis tenella</i>	Low	215
<i>Charybdis affinis</i>	Nil	253	<i>Metapenaeus affinis</i>	High	203
<i>Chione isabellina</i>	Nil	230	<i>Leiognathus brevirostris</i>	Medium	172
<i>Oratosquilla interrupta</i>	High	221	<i>Fenneropenaeus penicillatus</i>	High	165
<i>Eucrate crenata</i>	Nil	170	<i>Charybdis affinis</i>	Nil	158
<i>Amphibalanus sp.</i>	Nil	146	<i>Johnius belangerii</i>	Low	146
<i>Acaudina molpadiooides</i>	Nil	119	<i>Eucrate crenata</i>	Nil	133
<i>Chelon macrolepis</i>		0	<i>Amphibalanus sp.</i>	Nil	126
<i>Trypauchen vagina</i>	Low	104	<i>Dorippoides facchino</i>	Nil	126
<i>Cynoglossus arel</i>	High	78	<i>Trypauchen vagina</i>	Low	107
2010 Dry			2010 Wet		
Species	Commercial value	Abundance	Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	32264	<i>Turritella terebra</i>	Low	15214
<i>Scapharca subcrenata</i>	Low	5500	<i>Scapharca subcrenata</i>	Low	4984
<i>Tegillarca nodifera</i>	Low	4265	<i>Balanus sp.</i>	Nil	3066
<i>Paphia undulata</i>	Low	3244	<i>Tegillarca nodifera</i>	Low	2669
<i>Nassarius succinctus</i>	Nil	1796	<i>Nassarius succinctus</i>	Nil	2554
<i>Balanus sp.</i>	Nil	1386	<i>Paphia undulata</i>	Low	1994
hermit crab	Nil	1374	<i>Murex trapa</i>	Nil	1786
<i>Murex trapa</i>	Nil	1094	<i>Charybdis sp.</i>	Nil	1678
<i>Amphibalanus sp.</i>	Nil	1081	hermit crab	Nil	1134
<i>Charybdis sp.</i>	Nil	1055	<i>Morula mutica</i>	Nil	800
<i>Macoma candida</i>	Nil	871	<i>Leiognathus brevirostris</i>	Medium	654
<i>Morula mutica</i>	Nil	473	<i>Temnopleurus toreumaticus</i>	Nil	566
<i>Chione isabellina</i>	Nil	454	<i>Metapenaeus ensis</i>	High	457
<i>Inquistor flavidula</i>	Nil	444	<i>Macoma candida</i>	Nil	304
<i>Eucrate crenata</i>	Nil	413	<i>Metapenaeus affinis</i>	High	247
<i>Charybdis affinis</i>	Nil	286	<i>Charybdis affinis</i>	Nil	201
<i>Johnius belangerii</i>	Low	142	<i>Eucrate crenata</i>	Nil	183
<i>Bursa rana</i>	Low	101	<i>Platycephalus indicus</i>	Medium	183
<i>Liza ophuyensi</i>	Medium	101	<i>Inquistor flavidula</i>	Nil	182
<i>Oratosquilla oratoria</i>	High	100	<i>Parapenaeopsis tenella</i>	Low	134
2011 Dry			2011 Wet		
Species	Commercial value	Abundance	Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	39680	<i>Turritella terebra</i>	Low	15222
<i>Balanus sp.</i>	Nil	4544	<i>Paphia undulata</i>	Low	4292
<i>Paphia undulata</i>	Low	2758	<i>Balanus sp.</i>	Nil	4136
<i>Nassarius succinctus</i>	Nil	1424	<i>Nassarius succinctus</i>	Nil	3380
<i>Venerupis philippinarum</i>	Low	1212	<i>Tegillarca nodifera</i>	Low	2296
<i>Charybdis sp.</i>	Nil	850	<i>Macoma candida</i>	Nil	1972
<i>Tegillarca nodifera</i>	Low	817	<i>hermit crab</i>	Nil	1569
<i>Scapharca subcrenata</i>	Low	740	<i>Morula mutica</i>	Nil	1454
<i>Inquistor flavidula</i>	Nil	665	<i>Murex trapa</i>	Nil	1444
<i>Murex trapa</i>	Nil	608	<i>Scapharca subcrenata</i>	Low	1348
hermit crab	Nil	508	<i>Charybdis sp.</i>	Nil	1179
<i>Chione isabellina</i>	Nil	491	<i>Inquistor flavidula</i>	Nil	1038
<i>Macoma candida</i>	Nil	394	<i>Temnopleurus toreumaticus</i>	Nil	902
<i>Turridula javana</i>	Nil	381	<i>Chione isabellina</i>	Nil	731
<i>Morula mutica</i>	Nil	209	<i>Metapenaeus affinis</i>	High	431
<i>Temnopleurus toreumaticus</i>	Nil	190	<i>Talonostrea talonata</i>	Nil	406
<i>Nibea albiflora</i>	High	164	<i>Turridula nelliae</i>	Nil	387
<i>Trypauchen vagina</i>	Low	144	<i>Nassarius sp.</i>	Nil	274
<i>Eucrate crenata</i>	Nil	73	<i>Lophiotoma leucotropis</i>	Nil	243
<i>Acaudina molpadiooides</i>	Nil	71	<i>Nassarius hepaticus</i>	Nil	233
2012 Dry			2012 Wet		
Species	Commercial value	Abundance	Species	Commercial value	Abundance
<i>Turritella terebra</i>	Low	55400	<i>Turritella terebra</i>	Low	68854
<i>Balanus sp.</i>	Nil	8094	<i>Balanus sp.</i>	Nil	4520
<i>Temnopleurus toreumaticus</i>	Nil	1828	<i>Nassarius succinctus</i>	Nil	1970
<i>Paphia undulata</i>	Low	1754	<i>Charybdis sp.</i>	Nil	1348
<i>Inquistor flavidula</i>	Nil	1225	<i>Murex trapa</i>	Nil	1198
<i>Tegillarca nodifera</i>	Low	1115	<i>Inquistor flavidula</i>	Nil	1100
<i>Scapharca subcrenata</i>	Low	1024	<i>Macoma candida</i>	Nil	1049
<i>Nassarius succinctus</i>	Nil	966	<i>Tegillarca nodifera</i>	Low	1029
hermit crab	Nil	881	<i>Scapharca subcrenata</i>	Low	928
<i>Morula mutica</i>	Nil	708	<i>hermit crab</i>	Nil	881
<i>Macoma candida</i>	Nil	621	<i>Paphia undulata</i>	Low	744
<i>Charybdis affinis</i>	Nil	549	<i>Temnopleurus toreumaticus</i>	Nil	682
<i>Murex trapa</i>	Nil	512	<i>Morula mutica</i>	Nil	661
<i>Charybdis sp.</i>	Nil	440	<i>Ostrea sp.</i>	Low	628
<i>Crassostrea sp.</i>	Nil	398	<i>Cavernularia habereri</i>	Nil	546
<i>Chione isabellina</i>	Nil	245	<i>Metapenaeus joyneri</i>	High	381
<i>Chlamys nobilis</i>	Low	161	<i>Leiognathus brevirostris</i>	Medium	363
<i>Nassarius hepaticus</i>	Nil	136	<i>Eucrate crenata</i>	Nil	318
<i>Venerupis philippinarum</i>	Low	124	<i>Acaudina molpadiooides</i>	Nil	293
<i>Nassarius sp.</i>	Nil	123	<i>Chione isabellina</i>	Nil	266

2013 Dry

<b>Species</b>	<b>Commercial value</b>	<b>Abundance</b>
<i>Turritella terebra</i>	Low	4980
<i>Balanus sp.</i>	Nil	2580
<i>Charybdis sp.</i>	Nil	524
<i>Temnopleurus toreumaticus</i>	Nil	414
<i>Nassarius succinctus</i>	Nil	412
hermit crab	Nil	410
<i>Murex trapa</i>	Nil	342
<i>Tegillarca nodifera</i>	Low	286
<i>Inquisitor flavidula</i>	Nil	139
<i>Fenneropenaeus merguiensis</i>	High	97
<i>Scapharca subcrenata</i>	Low	90
<i>Morula mutica</i>	Nil	66
<i>Johnius amblycephalus</i>	Low	64
<i>Pseudorhombus oligodon</i>	Medium	42
<i>Valamugil cunnesius</i>	Medium	39
<i>Leiognathus brevirostris</i>	Medium	36
<i>Solea ovata</i>	Medium	35
<i>Parapenaeopsis tenella</i>	Low	34
<i>Macoma candida</i>	Nil	32

Source of raw data: CEDD Contaminated Mud Pit EM&A data 2006-2013.

Total yield of different species recorded from 2006 to 2013 in western Lantau water (TS station)

Species Group	Order	Family	Species	Total Yield (g)
Gastropod	Caenogastropoda	Turritellidae	<i>Turritella terebra</i>	3436106.6
Crab	Decapoda	Portunidae	<i>Charybdis spp.</i>	218898.5
Bivalve	Arcoida	Arcidae	<i>Anadara sativa</i>	212056.6
Bivalve	Arcoida	Arcidae	<i>Anadara ferruginea</i>	111527.9
Gastropod	Neogastropoda	Muricidae	<i>Murex trapa</i>	106090.9
Bivalve	Veneroida	Veneridae	<i>Paphia undulata</i>	96034.7
Bivalve	Arcoida	Arcidae	<i>Tegillarca nodifera</i>	75415.9
Echinoderm	Camarodontata	Temnopleuridae	<i>Temnopleurus toreumaticus</i>	67817.8
Echinoderm	Molpadida	Caudinidae	<i>Acaudina molpadioides</i>	51804.0
Crab			hermit crab	50308.3
Fish	Perciformes	Sciaenidae	<i>Johnius belangerii</i>	47342.7
Bivalve	Veneroida	Tellinidae	<i>Macoma candida</i>	45061.0
Gastropod	Neogastropoda	Nassariidae	<i>Nassarius succinctus</i>	35836.2
Bivalve	Pterioida	Pteriidae	<i>Pinctada imbricata</i>	33463.3
Gastropod	Neogastropoda	Muricidae	<i>Morula mutica</i>	26854.5
Crab	Decapoda	Dorippidae	<i>Paradorippe polita</i>	24238.6
Fish	Perciformes	Leiognathidae	<i>Leiognathus brevirostris</i>	22763.9
Fish	Scorpaeniformes	Platycephalidae	<i>Platycephalus indicus</i>	20858.3
Mantis shrimp	Stomatopoda	Squillidae	<i>Oratosquilla interrupta</i>	20799.2
Mantis shrimp	Stomatopoda	Squillidae	<i>Oratosquilla oratoria</i>	20685.6
Fish	Perciformes	Sciaenidae	<i>Johnius amblycephalus</i>	19452.7
Bivalve	Veneroida	Veneridae	<i>Chione isabellina</i>	18328.2
Crab	Decapoda	Portunidae	<i>Portunus trituberculatus</i>	18266.2
Fish	Perciformes	Gobiidae	<i>Trypauchen vagina</i>	16810.9
Fish	Mugiliformes	Mugilidae	<i>Liza macrolepis</i>	15515.2
Fish	Perciformes	Sciaenidae	<i>Nibea soldado</i>	14850.9
Prawn or shrimp	Decapoda	Penaeidae	<i>Metapenaeus ensis</i>	14585.6
Fish	Pleuronectiformes	Cynoglossidae	<i>Cynoglossus arel</i>	13943.1
Cephalopod	Octopoda	Octopodidae	<i>Octopus sp.</i>	13727.1
Prawn or shrimp	Decapoda	Penaeidae	<i>Metapenaeus affinis</i>	13674.4
			Others	307363.0
			Total	5190481.8

2006 Dry

Species	Commercial value	Yield (g)
<i>Charybdis affinis</i>	Nil	11440.8
<i>Johnius belangerii</i>	Low	4599.3
<i>Harpitosquilla harpax</i>	High	1648.6
<i>Cynoglossus arel</i>	High	1378.2
<i>Parachaeturichthys polynema</i>	Low	1218.6
<i>Oratosquilla interrupta</i>	High	1088.2
<i>Galene bispinosa</i>	Nil	736.3
<i>Alcockpenaeopsis hungerfordi</i>	High	520.2
<i>Ochetostoma erythrogrammoi</i>	Nil	421
<i>Fenneropenaeus merguiensis</i>	High	414.4
<i>Trypauchen vagina</i>	Low	373.9
<i>Polydactylus sextarius</i>	Medium	337.4
<i>Solenocera crassicornis</i>	Medium	300.9
<i>Leiognathus brevirostris</i>	Medium	219
<i>Turritella terebra</i>	Low	204.1
<i>Oxyurichthys tentacularis</i>	Low	190.8
<i>Johnius amblycephalus</i>	Low	187.6
<i>Alephus digitalis</i>	Low	186.7
<i>Heikeopsis japonica</i>	Nil	168.1
<i>Charybdis feriata</i>	High	140.9

2006 Wet

Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	14129.8
<i>Johnius belangerii</i>	Low	3057.8
<i>Charybdis affinis</i>	Nil	2752.9
<i>Oratosquilla interrupta</i>	High	2201.7
<i>Temnopleurus toreumaticus</i>	Nil	1843.5
<i>Johnius amblycephalus</i>	Low	1827.1
<i>Alcockpenaeopsis hungerfordi</i>	High	1814.8
<i>Leiognathus brevirostris</i>	Medium	1758.3
<i>Platycephalus indicus</i>	Medium	1479.5
<i>Paphia undulata</i>	Low	1156.8
<i>Murex trapa</i>	Nil	1139.3
<i>Metapenaeus affinis</i>	High	857.2
<i>Fenneropenaeus penicillatus</i>	High	798.7
<i>Cynoglossus arel</i>	High	668.3
<i>Scapharca subcrenata</i>	Low	663.4
<i>Harpitosquilla harpax</i>	High	647
hermit crab	Nil	628.7
<i>Ophichthus apicalis</i>	Low	586.5
<i>Galene bispinosa</i>	Nil	573.5
<i>Portunus trituberculatus</i>	High	561.4

2007 Dry

Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	58231.7
<i>Pinctada imbricata</i>	Nil	22712.3
<i>Temnopleurus toreumaticus</i>	Nil	21213.8
<i>Charybdis affinis</i>	Nil	11759.9
<i>Murex trapa</i>	Nil	6511.4
<i>Charybdis sp.</i>	Nil	5609.6
<i>Anadara ferruginea</i>	Low	5143.6
<i>Johnius belangerii</i>	Low	5111.2
<i>Oratosquilla oratoria</i>	High	3548.1
<i>Liza affinis</i>	Medium	2653.5
<i>Scapharca subcrenata</i>	Low	2578.4
<i>Johnius amblycephalus</i>	Low	1724.6
<i>Fenneropenaeus merguiensis</i>	High	1594.7
<i>Paphia undulata</i>	Low	1512.8
hermit crab	Nil	1456.3
<i>Cavernularia habereri</i>	Nil	1209.2
<i>Oratosquilla interrupta</i>	High	1145.7
<i>Polydactylus sextarius</i>	Medium	1074.6
<i>Charybdis feriata</i>	High	867.9
<i>Nassarius succinctus</i>	Nil	857.3

2007 Wet

Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	86460
<i>Charybdis sp.</i>	Nil	29650
<i>Murex trapa</i>	Nil	16055
<i>Anadara ferruginea</i>	Low	11255.4
<i>Paphia undulata</i>	Low	6876.4
<i>Charybdis variegata</i>	Nil	6424
hermit crab	Nil	4572
<i>Johnius belangerii</i>	Low	4197.3
<i>Fenneropenaeus penicillatus</i>	High	3767.1
<i>Oratosquilla interrupta</i>	High	3095.1
<i>Platycephalus indicus</i>	Medium	2675.6
<i>Johnius amblycephalus</i>	Low	2634.8
<i>Portunus trituberculatus</i>	High	2577.4
<i>Metapenaeus affinis</i>	High	2398.9
<i>Charybdis affinis</i>	Nil	2385.7
<i>Macoma candida</i>	Nil	2293.6
<i>Nassarius succinctus</i>	Nil	1255.3
<i>Leiognathus brevirostris</i>	Medium	1025
<i>Metapenaeus ensis</i>	High	1019.6
<i>Molpadias roretzii</i>	Nil	944

2008 Dry

Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	111942
<i>Nibea soldado</i>	High	12594.1
<i>Scapharca subcrenata</i>	Low	9462.6
<i>Pinctada imbricata</i>	Nil	9167.8
<i>Charybdis sp.</i>	Nil	8917.7
<i>Paphia undulata</i>	Low	8098.6
<i>Chelon macrolepis</i>	Low	7675.9
<i>Murex trapa</i>	Nil	5497.6
<i>Temnopleurus toreumaticus</i>	Nil	4468
<i>Charybdis affinis</i>	Nil	3749
hermit crab	Nil	3493.2
<i>Anadara ferruginea</i>	Low	2972.1
<i>Nassarius succinctus</i>	Nil	2613.6
<i>Oratosquilla oratoria</i>	High	2264.6
<i>Acaudina molpadioides</i>	Nil	2189
<i>Johnius belangerii</i>	Low	1726.9
<i>Harpitosquilla harpax</i>	High	1283.8
<i>Cynoglossus arel</i>	High	1262.4
<i>Portunus trituberculatus</i>	High	1203.2
<i>Octopus sp.</i>	Low	1119.6

2008 Wet

Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	213876
<i>Scapharca subcrenata</i>	Low	67968.4
<i>Paphia undulata</i>	Low	24903.4
<i>Acaudina molpadioides</i>	Nil	13144.1
<i>Tegillarca nodifera</i>	Low	10518.2
<i>Murex trapa</i>	Nil	9165.4
<i>Macoma candida</i>	Nil	6387.

<b>Species</b>	<b>Commercial value</b>	<b>Yield (g)</b>	<b>Species</b>	<b>Commercial value</b>	<b>Yield (g)</b>
<i>Turritella terebra</i>	Low	343770	<i>Turritella terebra</i>	Low	292511
<i>Johnius belangerii</i>	Low	17206.9	<i>Anadara ferruginea</i>	Low	91686
<i>Paphia undulata</i>	Low	10658	<i>Scapharca subcrenata</i>	Low	41303.4
<i>Scapharca subcrenata</i>	Low	8648	<i>Paphia undulata</i>	Low	17470
<i>Charybdis sp.</i>	Nil	6851	<i>Charybdis sp.</i>	Nil	9309
<i>Charybdis affinis</i>	Nil	6552.7	<i>Murex trapa</i>	Nil	6323
<i>Murex trapa</i>	Nil	5241.5	<i>Macoma candida</i>	Nil	4904
<i>Oratosquilla oratoria</i>	High	5153.4	<i>Portunus pelagicus</i>	High	3870
<i>Tegillarca granosa</i>	Low	4839	<i>hermit crab</i>	Nil	3835
<i>Octopus sp.</i>	Low	4210.4	<i>Johnius belangerii</i>	Low	3200
<i>Tegillarca nodifera</i>	Low	4013	<i>Charybdis affinis</i>	Nil	3065
<i>Chelon macrolepis</i>	Low	3877.6	<i>Chione isabellina</i>	Nil	2645.8
<i>Oratosquilla interrupta</i>	High	3820	<i>Nassarius succinctus</i>	Nil	2285
<i>hermit crab</i>	Nil	3135	<i>Fenneropenaeus penicillatus</i>	High	2115
<i>Acaudina molpadiooides</i>	Nil	2719.3	<i>Metapenaeus affinis</i>	High	2000
<i>Eucrate crenata</i>	Nil	2076	<i>Platyccephalus indicus</i>	Medium	1870
<i>Pennahia pawak</i>	Low	1649.1	<i>Leiognathus brevirostris</i>	Medium	1738
<i>Nassarius succinctus</i>	Nil	1622.7	<i>Oratosquilla interrupta</i>	High	1660
<i>Johnius amblycephalus</i>	Low	1564.7	<i>Trypauchen vagina</i>	Low	1660
<i>Cynoglossus arel</i>	High	1404.8	<i>Portunus sanguinolentus</i>	High	1500

<b>2010 Dry Species</b>	<b>Commercial value</b>	<b>Yield (g)</b>	<b>2010 Wet Species</b>	<b>Commercial value</b>	<b>Yield (g)</b>
<i>Turritella terebra</i>	Low	287822	<i>Turritella terebra</i>	Low	147110
<i>Scapharca subcrenata</i>	Low	126232	<i>Scapharca subcrenata</i>	Low	52136
<i>Paphia undulata</i>	Low	22364	<i>Murex trapa</i>	Nil	18921
<i>Tegillarca nodifera</i>	Low	20412	<i>Paphia undulata</i>	Low	14258.6
<i>Charybdis sp.</i>	Nil	10295	<i>Charybdis sp.</i>	Nil	13492
<i>Charybdis affinis</i>	Nil	8355	<i>Tegillarca nodifera</i>	Low	12370
<i>Murex trapa</i>	Nil	6900	<i>Leiognathus brevirostris</i>	Medium	6805
<i>Macoma candida</i>	Nil	4669.5	<i>Temnopleurus toreumaticus</i>	Nil	5765.1
<i>hermit crab</i>	Nil	4310	<i>Morula mutica</i>	Nil	5533.2
<i>Octopus sp.</i>	Low	3965	<i>Platyccephalus indicus</i>	Medium	4935
<i>Johnius belangerii</i>	Low	3855	<i>hermit crab</i>	Nil	4603
<i>Acaudina molpadiooides</i>	Nil	3837.1	<i>Charybdis affinis</i>	Nil	4350
<i>Nassarius succinctus</i>	Nil	3698	<i>Metapenaeus ensis</i>	High	4286
<i>Jelly fish</i>	Nil	3562	<i>Nassarius succinctus</i>	Nil	3500
<i>Liza ophuyensi</i>	Medium	3513	<i>Oratosquilla interrupta</i>	High	2740
<i>Eucrate crenata</i>	Nil	3310	<i>Portunus trituberculatus</i>	High	2320
<i>Oratosquilla oratoria</i>	High	2305	<i>Trypauchen vagina</i>	Low	1980
<i>Morula mutica</i>	Nil	2196.1	<i>Johnius belangerii</i>	Low	1930
<i>Chione isabellina</i>	Nil	2018.4	<i>Portunus sanguinolentus</i>	High	1910
<i>Charybdis feriata</i>	High	1745	<i>Metapenaeus affinis</i>	High	1785

<b>2011 Dry Species</b>	<b>Commercial value</b>	<b>Yield (g)</b>	<b>2011 Wet Species</b>	<b>Commercial value</b>	<b>Yield (g)</b>
<i>Turritella terebra</i>	Low	439460	<i>Turritella terebra</i>	Low	144850
<i>Scapharca subcrenata</i>	Low	21940	<i>Scapharca subcrenata</i>	Low	35633.2
<i>Paphia undulata</i>	Low	19246	<i>Paphia undulata</i>	Low	23472
<i>Charybdis sp.</i>	Nil	11593	<i>Portunus trituberculatus</i>	High	19622
<i>Venerupis philippinarum</i>	Low	5449	<i>Macoma candida</i>	Nil	10832
<i>Nibea albiflora</i>	High	4716	<i>Charybdis sp.</i>	Nil	10762
<i>Murex trapa</i>	Nil	4092	<i>Tegillarca nodifera</i>	Low	10687
<i>Tegillarca nodifera</i>	Low	3717	<i>Murex trapa</i>	Nil	9918
<i>Nassarius succinctus</i>	Nil	2776	<i>Morula mutica</i>	Nil	8672
<i>Chione isabellina</i>	Nil	2619.3	<i>Temnopleurus toreumaticus</i>	Nil	7020
<i>Macoma candida</i>	Nil	2377	<i>Nassarius succinctus</i>	Nil	6814
<i>Trypauchen vagina</i>	Low	2270	<i>hermit crab</i>	Nil	6799
<i>hermit crab</i>	Nil	1955	<i>Acaudina molpadiooides</i>	Nil	5713.3
<i>Acaudina molpadiooides</i>	Nil	1693	<i>Chione isabellina</i>	Nil	3507
<i>Balanus sp.</i>	Nil	1589	<i>Metapenaeus affinis</i>	High	3058
<i>Temnopleurus toreumaticus</i>	Nil	1552.6	<i>Trypauchen vagina</i>	Low	2686
<i>Charybdis affinis</i>	Nil	1490	<i>Nibea albiflora</i>	High	2178
<i>Johnius amblycephalus</i>	Low	1368	<i>Inquistor flavidula</i>	Nil	2107.1
<i>Cynoglossus arel</i>	High	1172	<i>Balanus sp.</i>	Nil	1951
<i>Jelly fish</i>	Nil	1170	<i>Metapenaeus ensis</i>	High	1924

<b>2012 Dry Species</b>	<b>Commercial value</b>	<b>Yield (g)</b>	<b>2012 Wet Species</b>	<b>Commercial value</b>	<b>Yield (g)</b>
<i>Turritella terebra</i>	Low	526320	<i>Turritella terebra</i>	Low	475610
<i>Temnopleurus toreumaticus</i>	Nil	13888	<i>Scapharca subcrenata</i>	Low	43890
<i>Paphia undulata</i>	Low	12420	<i>Acaudina molpadiooides</i>	Nil	17549
<i>Scapharca subcrenata</i>	Low	11047	<i>Charybdis sp.</i>	Nil	10359
<i>Charybdis affinis</i>	Nil	6706	<i>Portunus trituberculatus</i>	High	9232
<i>Tegillarca nodifera</i>	Low	6694.8	<i>Murex trapa</i>	Nil	9129
<i>Charybdis sp.</i>	Nil	5718	<i>Macoma candida</i>	Nil	6506
<i>Morula mutica</i>	Nil	4161	<i>Temnopleurus toreumaticus</i>	Nil	5595.5
<i>Murex trapa</i>	Nil	4156.2	<i>Tegillarca nodifera</i>	Low	5214
<i>Macoma candida</i>	Nil	4069.3	<i>Paphia undulata</i>	Low	4964
<i>Balanus sp.</i>	Nil	3683	<i>Leiognathus brevirostris</i>	Medium	4210
<i>hermit crab</i>	Nil	3004	<i>Nassarius succinctus</i>	Nil	3896
<i>Inquistor flavidula</i>	Nil	2795	<i>Morula mutica</i>	Nil	3846.6
<i>Charybdis feriata</i>	High	2006	<i>hermit crab</i>	Nil	3580
<i>Nassarius succinctus</i>	Nil	1990	<i>Cavernularia habereri</i>	Nil	2538.4
<i>Harpiosquilla harpax</i>	High	1947	<i>Inquistor flavidula</i>	Nil	2475.6
<i>Trichotropis sp.</i>	Nil	1881	<i>Trypauchen vagina</i>	Low	2175
<i>Crassostrea sp.</i>	Nil	1711	<i>Balanus sp.</i>	Nil	2137.2
<i>Acaudina molpadiooides</i>	Nil	1448.5	<i>Metapenaeus joyneri</i>	High	2066
<i>Chione isabellina</i>	Nil	1386.4	<i>Metapenaeus ensis</i>	High	2038

Species	Commercial value	Yield (g)
<i>Turritella terebra</i>	Low	46680
<i>Charybdis sp.</i>	Nil	4697
<i>Fenneropenaeus merguiensis</i>	High	4672
<i>Temnopleurus toreumaticus</i>	Nil	3382
<i>Murex trapa</i>	Nil	2732
<i>Scapharca subcrenata</i>	Low	1952
<i>Platycephalus indicus</i>	Medium	1666
<i>Valamugil cunnesius</i>	Medium	1620
<i>Tegillarca nodifera</i>	Low	1457.4
hermit crab	Nil	1436
<i>Balanus sp.</i>	Nil	1245
<i>Johnius amblycephalus</i>	Low	1210
<i>Acaudina molpadiooides</i>	Nil	1194
<i>Nassarius succinctus</i>	Nil	927
<i>Charybdis feriata</i>	High	812
<i>Acentrogobius caninus</i>	Low	704
<i>Oratosquilla oratoria</i>	High	616
<i>Octopus sp.</i>	Low	616
<i>Crassostrea sp.</i>	Nil	540
<i>Enoplolambrus validus</i>	Nil	498.4

Source of raw data: CEDD Contaminated Mud Pit EM&A data 2006-2013.