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Fisheries Resources: Coral Reef Fishes

Solomon Islands Marine Assessment

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Summary

Reef fin-fish are the mainstay of subsistence and artisanal fisheries in the Solomon Islands, comprising a major component of the protein diet of Solomon Islanders. These resources are also becoming an important source of income for inhabitants of many coastal communities.

This survey represents the first broad scale, quantitative survey of coral reef fish communities and fisheries resources conducted in the Solomon Islands. The survey results will greatly increase our understanding of the status of these critically important marine resources, and help provide a scientific basis for their effective management.

Quantitative surveys were conducted at 66 sites throughout seven of the nine provinces in the Solomon Islands: Isabel, Choiseul, Western, Central, Guadalcanal, Malaita and Makira. Coral reef fish communities and key fisheries resources were assessed using underwater visual census methods along five replicate transects on reef slopes at depths of approximately 10m at each site. Study sites were distributed to provide maximum geographic coverage of the main islands, and exposures around the islands, within the study area. A restricted list of 37 families (383 species) was used, comprising only those amenable to underwater visual census techniques. Of these, 23 families (67 species or species groups) and 12 families (42 species or species groups) were considered food and aquarium fishes respectively. A total of 110,640 reef fishes were counted during the survey, and their size estimated for biomass estimates.

The status of coral reef fish communities was assessed based on their species richness, density and biomass, while the status of food fish populations was assessed based on their density and biomass. Aquarium fish populations were assessed based on their density only, since aquarium fishes are sold by the "piece" and not by weight

The status of coral reef fish communities and fisheries resources was highly variable among provinces, islands and sites. In general (see Table 1):

- Coral reef fish communities were in good condition throughout most of the Solomon Islands, with those in the Central (Russell Islands and Savo Island), Choiseul, Isabel (particularly the Arnavon Islands), Makira (particularly the offshore islands of Three Sisters and Ugi), and Western Provinces (both New Georgia and the Shortland Islands), tending to be in better condition (in terms of fish species richness, density and biomass) than those in Guadalcanal, Malaita and Central (Florida Islands) Provinces.
- Healthy populations of food fishes were encountered in some locations in Central (Russell Islands), Choiseul, Isabel (particularly the Arnavon Islands), Makira (Makira Island), and Western Provinces. In contrast, healthy populations of food fishes were not observed in Central (Florida Islands and Savo Islands), Guadalcanal, Makira (Three Sisters Islands and Ugi Island) and Malaita Provinces. Similar patterns were recorded for four of the five major food fish families (snappers, surgeonfishes, emperors and parrotfishes). This pattern was most pronounced for key fisheries species of parrotfishes (including the humphead parrotfish), which were not observed on Guadalcanal at all. The other major food fish family (groupers) was uncommon throughout the survey area, with the highest densities recorded in the Arnavon Community Marine Conservation Area.
- Large bony reef fishes (>30cm) were most abundant in Western, Makira, Isabel, Choiseul and Central Provinces, with few recorded in Guadalcanal or Malaita Provinces.
- Large and vulnerable reef fish species, particularly those targeted by the live reef food fish trade (LRFFT) eg humphead wrasse, were uncommon or rare throughout the survey area, with most recorded in the northwestern provinces (particularly Choiseul, Western and Isabel Provinces). Large groupers also targeted by the LRFFT (brown

marbled grouper, camouflage grouper, and square-tailed coral grouper) were rare throughout the survey area, as were barramundi cod, giant trevally, sharks and rays. Large and vulnerable emperor species were most abundant in Makira, Choiseul, and Isabel Provinces.

- Healthy populations of aquarium fishes were encountered in some locations, particularly in Central (Russell Islands and Savo Island), Choiseul, Isabel, Makira (particularly Three Sisters Islands and Ugi Island), and Western Provinces (New Georgia and Shortland Islands). In contrast, only low densities of aquarium fish species were encountered in Guadalcanal and Malaita Provinces, and some locations in Central (Florida Islands), Makira (Makira Island) and Isabel (Arnavon Islands) Provinces. The most abundant families were damselfishes, wrasses, surgeonfishes and fairy basslets, which accounted for most of the variation among provinces, islands and sites, while other target families (butterflyfishes, angelfishes and hawkfishes) were less abundant. Key target species such as anemonefishes, blue-girdled angelfish, and emperor angelfish, were uncommon or rare throughout the survey area. Two other key target species, the blue devil and blue tang, were not included in this survey, since they tend to occur in habitat types and depths not included in this study.

The reasons for the varying status of coral reef fish communities and key fisheries resources throughout the Solomon Islands cannot be determined with certainty, because of the lack of previous surveys and historical catch data for the study area. However, the variation at the site level (within provinces and islands), was most likely due to the variation in coral reef habitats among sites.

However, some of the variation among provinces was also likely to be due to the impact of human activities, particularly fishing, on reef fish populations, since the healthiest populations of food fishes were observed in areas with small human populations, while those in worse condition were located in or close to the most heavily populated provinces of Guadalcanal and Malaita, including areas where the coral reef habitat was in otherwise good condition.

Table 1. Provinces and major islands or island groups where healthy coral reef communities or populations of key fisheries species were encountered.

Province	Island or Island Group	Coral Reef Fish Comm.	Food Fish Pops.	Large Reef Fishes (>30cm)	Large, vulnerable reef fishes	Aquarium Fishes
Central	Russell Islands	Yes	Yes	Yes	No	Yes
	Florida Islands	No	No			No
	Savo Island	Yes	No			Yes
Choiseul	Choiseul	Yes	Yes	Yes	Yes	Yes
Guadalcanal	Guadalcanal	No	No	No	No	No
Isabel	Isabel	Yes	Yes	Yes	Yes	Yes
	Arnavon Islands	Yes	Yes			No
Makira	Makira	Yes	Yes	Yes	No	No
	Three Sisters Islands	Yes	No			Yes
	Ugi Island	Yes	No			Yes
Malaita	Malaita	No	No	No	No	No
Western*	New Georgia	Yes	Yes	Yes	Yes	Yes
	Shortland Islands	Yes	Yes			Yes

*Sites were excluded where no surveys were conducted for small or medium sized fishes.

A high human population implies high fishing pressure on reef fish stocks and other marine resources. Two provinces, Guadalcanal and Malaita, host the two largest populated urban centers in the Solomon Islands - Honiara and Auki respectively. The demand for reef fish in these areas is high and expected to increase as these urban areas grow. Unlike other provinces such as the Western, Isabel or Choiseul, which have large extensive coral reef systems and therefore a large unit area of coral reef per number of people, both Malaita (excluding Ontong Java) and Guadalcanal have less extensive reef systems and therefore a small unit area of coral reef per number of people. With the current high population levels in these provinces, the level of fishing pressure on reef fish stocks and other marine resources in these and nearby provinces may already be too high. The use of highly efficient and destructive fishing methods, particularly blast fishing, gill netting, night spear fishing and targeting spawning aggregation sites, may be exacerbating the problem, particularly for large and vulnerable species.

In summary, the results of this survey indicate that overfishing of reef fish populations may already be occurring in some provinces, particularly in Guadalcanal, Malaita and Central (Florida Islands) Provinces. Given the rapidly rising population in the Solomon Islands, this problem is likely to become more serious and widespread in future.

Because of the importance of coral reef fish resources to the livelihood of the Solomon Island people, it is very important that these resources are managed to ensure their long term sustainability. As the country's population increases, the reliance on reef fish resources is also expected to increase. In light of this inevitable scenario, the government is strongly urged to undertake appropriate measures to safeguard its coral reef fisheries resources. This study has helped provide a scientific basis for the National Government to reassess the status of these resources, and the management arrangements for these fisheries.

We recommend that the National Government consider the following management actions to ensure the long term sustainability of these critically important resources:

- Ban the use of highly efficient and destructive fishing methods, particularly gillnets and night spear fishing;
- Undertake a nationwide education and awareness program to help fishermen understand the importance of conservation and management of fisheries resources, and the important habitats these resources depend on for their well being;

- Implement an education and awareness program on blast fishing targeted towards ensuring that young people understand the effect of these methods on marine resources and their habitats, and that this activity is prohibited and penalties apply for breaching the law;
- Recruit more enforcement officers to work closely with other law enforcement agencies and rural fishing communities to monitor and enforce fisheries laws and regulations;
- Facilitate and support the establishment of Marine Protected Areas to protect key fisheries species (food and aquarium fishes);
- Protect large and vulnerable fish species (humphead parrotfish, humphead wrasse and large groupers) through the protection of fish spawning aggregation sites, and the implementation of the National Management and Development Plan for the Live Reef Food Fish Fishery;
- Develop Management and Development Plans for other food fishes and the Aquarium Industry;
- Speed-up the appointment and establishment of the Fishery Advisory Council as provided for under the Fisheries Act 1998, to ensure proper Fisheries Management and Development Plans are implemented;
- Develop alternative offshore fisheries such as, raft fishing for tuna, squid fishing and deep water snapper fishing to ease fishing pressure on the inshore resources; and
- Establish long term monitoring of key fisheries resources, and their use in subsistence and artisanal fisheries in the Solomon Islands

Introduction

Fisheries in the Solomon Islands comprise two distinct sectors: the industrial sector which is predominantly off-shore and depends on the abundant tuna resources found in the country's exclusive economic zone (EEZ), and the subsistence-artisanal sector which is based on inshore resources found in the coastal regions. Although the off-shore fisheries contribute more to the national economy in terms of foreign exchange earning (Gillett and Lightfoot 2002), the subsistence-artisanal sector is by far the most important to the bulk of the population with annual production estimated at SI$60 million (Kile 2000) and US$9.963 million (Gillett and Lightfoot 2002). This sector provides food, income and employment for many inhabitants of coastal communities throughout the country, and will become increasing important as the population of the Solomon Islands increases.

Reef fin-fishes are the mainstay of the subsistence-artisanal fisheries in the Solomon Islands, and have always formed a major component of the protein diet of Solomon Islanders (Leqata *et al*. 1990, Leqata and Oreihaka 1995, Oreihaka and Ramohia 2000). Reef fin-fish resources are also becoming an important source of income for inhabitants of many coastal communities. Many rural fishers now have access to provincial fisheries centres and urban market outlets where they sell reef fish and other marine products, and a substantial amount of income is now generated each year through fish sales to these centres. For example, between April 1, 2001 and February 28, 2003, six fisheries centres supported by the European Union in Isabel, Malaita, Western and Central Islands provinces produced 132.092mt of reef fish worth SI$909,778 (Russell and Buga 2004).

The Live Reef Food Fish Trade (LRFFT: Donnelly *et al*. 2000; Donnelly 2000; Kile *et al*. 2000) and Aquarium Trade (Kinch 2004a, b) have also attracted some commercial opportunities for fishers in rural coastal communities. However in the case of the LRFFT, these economic opportunities have often come at a significant ecological and social cost (Johannes & Lam, 1999; Donnelly, 2000; Donnelly *et al*., 2000). In order to be cost effective, LRFFT operations in the Solomon Islands have been pulse fishing events that target grouper spawning aggregations during known reproductive seasons. This fishing practice is extremely destructive and can eliminate breeding populations of fish in as little as two or three years (Johannes, 1997; Sadovy & Vincent, 2002). For example, between 1996 and 1997 local fishers from Roviana Lagoon in the Western Solomon's dramatically overfished a historically large grouper aggregation site in order to supply a LRFFT operation. This aggregation site has been monitored continuously since May 2004, but to date has shown few if any signs of recover (Hamilton *et al*., 2005). The long term ecological and economic implication of destroying spawning aggregations means that we strongly recommended that this fishery is not engaged with in the future.

Despite being a major provider of food and income, the status of the reef fin-fish stocks in Solomon Islands is not well understood. This relates to both the small scale multi-species nature of most coastal fisheries in the Solomon Islands and the limited amount of funds that have been committed to this type of work.

Although there is little quantitative data available on reef fin-fish population dynamics in the Solomon Islands, many coastal communities have detailed bodies of local knowledge about their environment, and researchers have frequently drawn on local knowledge to assist them in their research. Past experience has shown the local knowledge of Solomon Island communities can be very valuable for providing detailed information on; harvesting strategies (Aswani, 1998; Johannes *et al*. 2000), the locations of critical habitats such as nursery and spawning areas (Johannes 1989; Johannes and Hviding 2001; Hamilton, 2004; Hamilton *et al*., 2005), and changes in the status of local fisheries over time (Hamilton, 2003; Hamilton 2004). The general lack of understanding of reef fin-fish population dynamics is closely

related to the absence of empirical data and the complexity of reef fin-fish communities. A summary of some of the work undertaken on reef fin-fish resources since the mid 1980s is provided below.

- A Baitfish Research Project funded by the Australian Centre for Agricultural Research (ACIAR) was carried out between 1986 and 1990. This study investigated the important baitfish species in the commercial bait fishery, and the predatory species that feed on them. This study also investigated which of the major baitfish predators were also important food fishes in the subsistence-artisanal fisheries. (Blaber *et al*. 1990a, b; Leqata *et al*. 1990). In addition to these investigations, the study also established a checklist of coral reef and mangrove fish species for six locations in the country: Munda, Vonavona, Kolombangara, Rendova, Guadalcanal and Tulagi (Blaber *et al*. 1991). A total of 774 species from 91 families were recorded.

- Stock assessment aspects of the coral reef fin-fisheries were addressed during another ACIAR funded project which was completed in 1995 (Legata and Oreihaka 1995; Samoilys *et al*., 1995). This study investigated the application of Underwater Visual Census (UVC) to assess reef fin-fish stocks and demonstrate how UVC estimates of biomass can be used to predict catch rates or potential yields.

- Various aspects of the LRFFT industry were studied through another ACIAR funded project (Sustainable Management of the Live Reef Fish Trade-Based Fishery in Solomon Islands) commissioned in 1998 at three locations in the country, namely Roviana Lagoon, Marovo Lagoon and Ontong Java. This study focused on the biology of LRFFT species, and the socio-economic and management aspects of the fishery (Donnelly 2000; Donnelly *et al*. 2000; Kile *et al*. 2000).

- A rapid ecological assessment of marine resources of Rennell Island and Indispensable reef was conducted in 1994, which recorded 170 species of reef fishes (Cole 1994).

- In 1998, a coral reef fish biodiversity survey was jointly conducted in the Santa Cruz Islands, Temotu province by the Australian Museum, Smithsonian Institution, Field Museum of Natural History, Milwaukee Public Museum and the Department of Fisheries and Marine Resources (DFMR) of the Solomon Islands Government (McGrouther 1999). This study recorded 725 species of reef fishes, which included many new species.

- The feasibility of a new artisanal fishery based on the capture and culture of pre-settlement coral reef fish targeted for the LRFFT has been investigated in Solomon Islands by the WorldFish Centre (Bell *et al*. 1999: Hair *et al*. 2002, Hair and Doherty 2004). This project was carried out in the Western province and Ontong Java in Malaita province.

- Hamilton (2003; 2004) investigated the age-based demographics and status of the humphead parrotfish (*Bolbometopon muricatum*) stocks in the New Georgia region of the Western Solomon Islands. He found that the population turnover rates for this species are slow. This biological factor, coupled with the technological and social shifts that have occurred in subsistence fisheries in recent decades, has resulted in this species being rapidly overfished in Roviana Lagoon.

- Indigenous knowledge of spawning aggregations of the longfin emperor species *Lethrinus erythropterus* was investigated in Roviana lagoon by Hamilton (2005).

Although these studies have been very useful in contributing to our understanding of different aspects of reef fin fish resources in Solomon Islands, many are dated, location and species specific or based on export data (fisheries dependent).

Coral reef fish resources are facing high exploitation pressures in the Solomon Islands due to the increasing human population, the change from subsistence to a cash economy, and the use of highly efficient and destructive fishing methods (particularly blast fishing, gill nets, and night spear fishing). Effective fisheries management will be required for the sustainable management of these critically important resources in the long term.

The Solomon Islands Marine Assessment has also demonstrated that the coral reef communities in the Solomon Islands are highly diverse and a high priority for marine conservation (see *Executive Summary* this report). As such, there is an urgent need for more up to date and detailed information on the status of coral reef fish communities and the populations of key fisheries species, to provide a more scientific basis for the effective conservation and management of these resources in the Solomon Islands.

This study represents the first broad scale survey of coral reef fish communities and populations of key fisheries species in the Solomon Islands. The primary objective was to conduct a quantitative baseline assessment of the status of these resources throughout the main island chain of the Solomon Islands, encompassing seven of the nine provinces. The results will help provide a scientific basis for the conservation and management of coral reef fish communities and fisheries resources through fisheries management at the national, provincial and community levels; education and awareness programs for communities and schools; and the development of a National Biodiversity Strategic Action Plan (NBSAP) for Solomon Islands. This survey will also establish a baseline for the long term monitoring of these resources.

Methods

Survey Area and Sites

The survey focused on the core island group of the Solomon Islands, from Choiseul and Shortland Islands in the northwest to the Makira in the southeast (Figure 1). Sixty-six sites were surveyed in seven provinces: Isabel, Choiseul, Western, Central, Guadalcanal, Malaita and Makira (Figures 1 & 2).

Study sites were distributed to provide maximum geographic coverage of the main islands and island groups within the study area. The number of sites sampled in each island or group depended on its size and habitat complexity, and as well as logistic constraints (time and weather). Four to 12 sites were surveyed on each of the large islands and groups (Isabel, Choiseul, New Georgia, Guadalcanal, Makira and Malaita), and one to four sites were surveyed on each of the smaller islands (Arnavons, Shortlands, Russells, Floridas, Three Sisters, Ugi, and Savo Islands).

Survey sites were also selected to represent both exposed and sheltered habitats on each island or island group. Exposed sites were located on the outside of reefs, where exposure to waves and oceanic influences were high. Sheltered sites were located in protected lagoons and bays, where exposure to wave activity and oceanic influences was low. Of the 66 sites surveyed, 35 and 31 were located in exposed and sheltered areas respectively.

Survey Methods

Coral Reef Fish Communities

Coral reef fish communities were surveyed using underwater visual census techniques along five replicate transects on the reef slope (depth=10m) at each site. Fishes were surveyed by three passes along the transect counting different species in each pass, using different transect dimensions for each group (based on their behaviour, size and abundance):

- Large, highly mobile species that are most likely to be disturbed by the passage of a diver (such as parrotfishes, snappers and emperors) were surveyed on the first pass using transect dimensions of 50m x 5m.
- Medium sized mobile species (including most surgeonfishes, butterflyfishes and wrasses) that are less disturbed by the presence of a diver, were counted on the second pass using transect dimensions of 50m x 3m.
- Small, site attached species (mostly damselfishes) that are least disturbed by the presence of a diver, were counted on the third pass using transect dimensions of 30m x 1m.

Small and medium sized reef fishes were not surveyed at four sites in the Western Province due to logistic constraints (Figure 1): two sites in the Shortland Islands (Sites 27 and 28: Onua and Faisi respectively) and two sites in New Georgia (Sites 29 and 30: Vella Levella and Njari respectively).

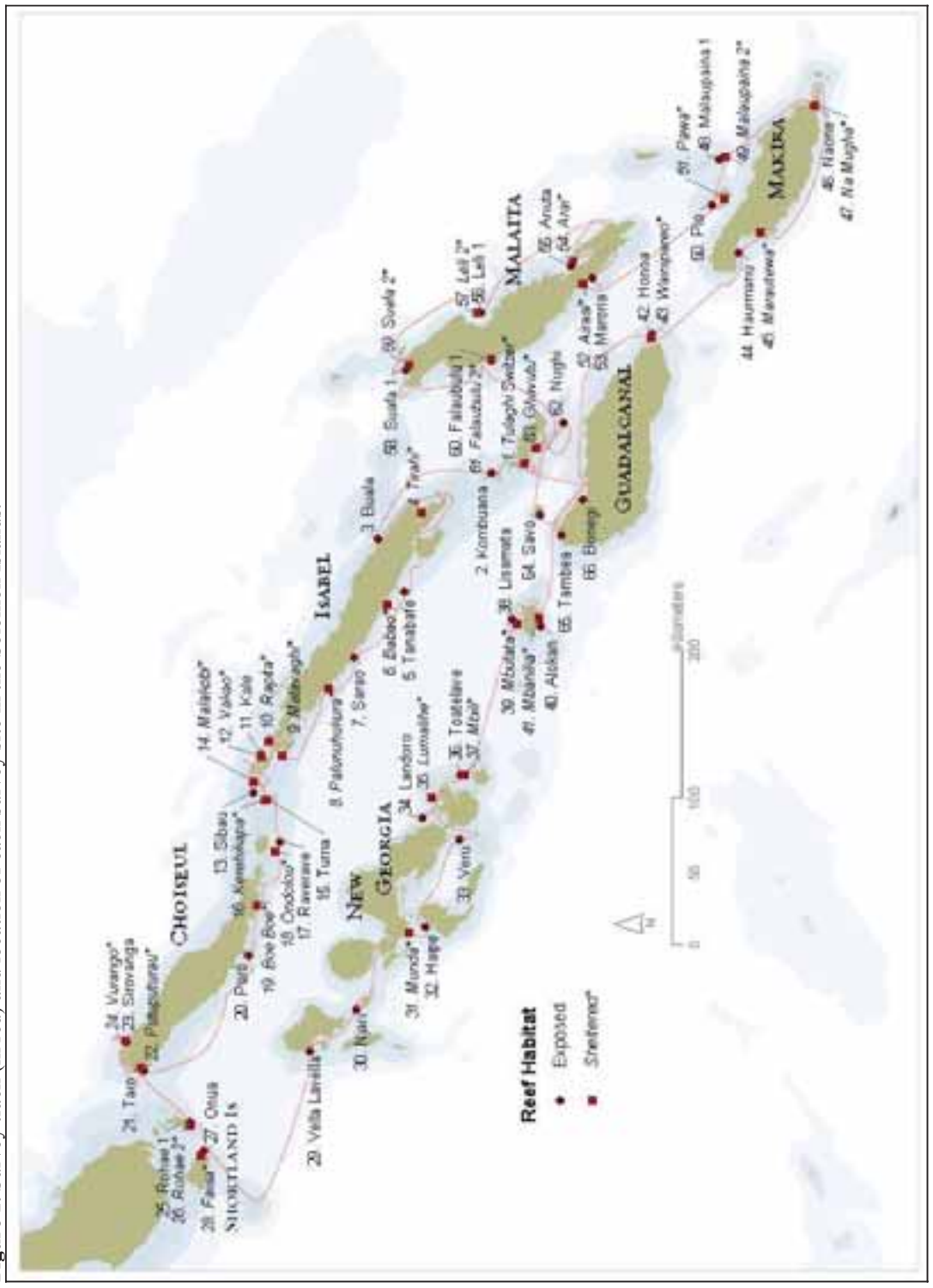
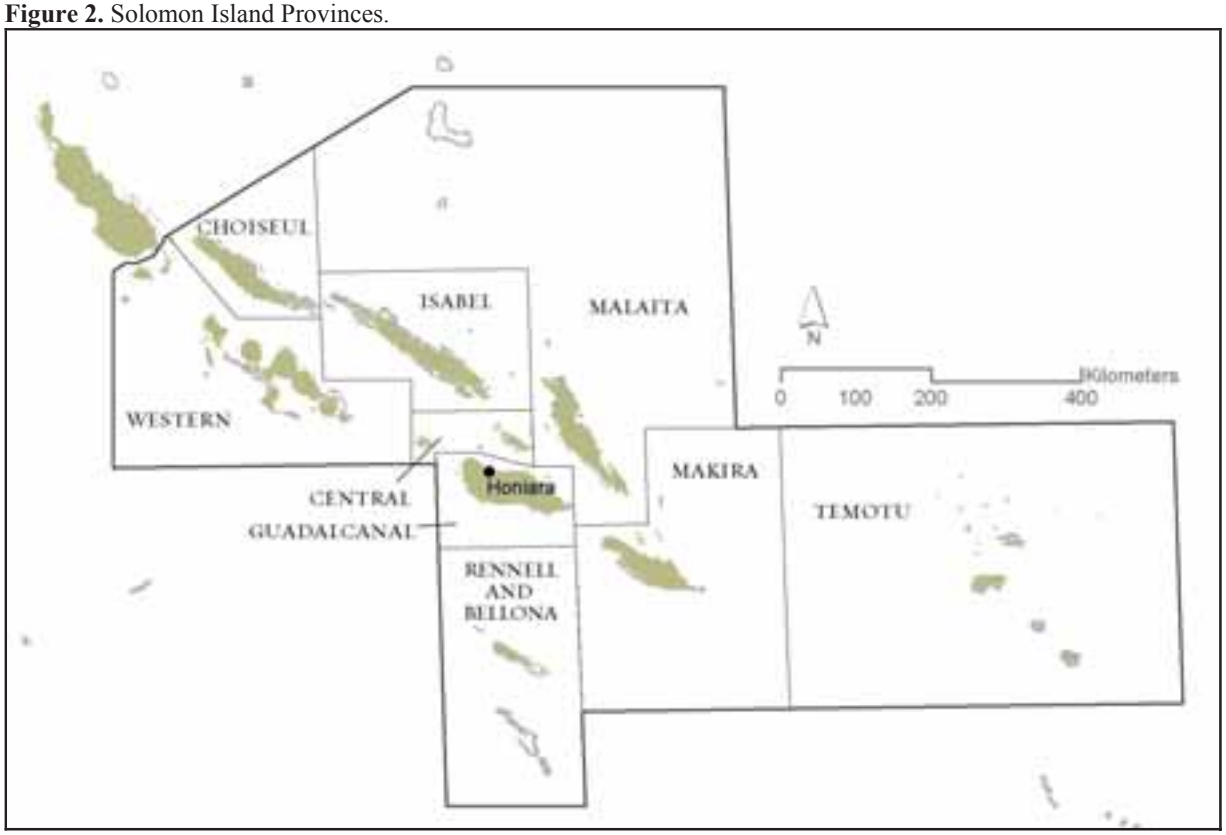


Figure 1. Survey track (in red) and location of each survey site in the Solomon Islands.

Figure 2. Solomon Island Provinces.



During each pass of the transect, the number of individuals of each species was counted and recorded onto underwater paper. The size of each individual (length in cm) was also estimated and recorded. Fish identifications were based on Allen (2003).

Transect lengths were measured using 50m tapes, and transect widths were estimated using known body proportions. Transect tapes were laid during the first pass by an assistant following the observer (to minimize disturbance to the fish communities being counted). The tapes then remained *in situ* until all the surveys were completed at that site. Fish counts (i.e. each pass of the transect) were separated by a waiting period of ~5 minutes between counts. Benthic communities and key macroinvertebrates were surveyed along the same transects after the fish counts were completed (see *Benthic Communities* this report; and *Fisheries Resources: Commercially Important Macroinvertebrates* this report).

A restricted list of 37 families was used comprising only those families that are amenable to visual census techniques, because they are relatively large, diurnally active and conspicuous in coloration and behaviour (Table 2). This method excludes species that are not amenable to the technique because they are very small, nocturnal or cryptic in behaviour (eg gobies, blennies, cardinalfish).

Reef fish communities were compared among provinces, islands and sites based on their species richness, density and biomass. Where: fish species richness was the total number of species recorded on the transects, and fish density was converted to the number of individuals per hectare (ha). Fish biomass was calculated by converting estimated fish lengths to weights using the allometric length-weight conversion formulae [weight (kg) = (total length in cm x constant a)^{b}]

where a and b are constants for each species. Constants were not available for most species in the Solomon Islands, so they were obtained from New Caledonia (Kulbicki *unpubl data*: Appendix 1), which was the closest geographic area where this information was available. Where constants were not available for a species, the constants for a similar species (usually a congeneric species) were used.

This survey established a quantitative baseline for the long term monitoring of coral reef fishes in the Solomon Islands.

Table 2. Reef fish families surveyed in the Solomon Islands.

Class (common name)	Family	Family Common Name
Chondrichtyes (sharks and rays)	Carcharinidae	whaler or requiem sharks
	Ginglymostomatidae	nurse sharks
	Hemigaleidae	weasel sharks
	Myliobatidae	eagle rays
Osteichthyes (bony fishes)	Acanthuridae	surgeonfishes and unicornfishes
	Aulostomidae	trumpetfishes
	Balistidae	triggerfishes
	Caesionidae	fusiliers
	Carangidae	trevallies
	Chaetodontidae	butterflyfishes
	Diodontidae	porcupinefishes
	Echeneidae	suckerfish
	Ephippidae	batfishes
	Fistularidae	flutemouths
	Haemulidae	sweetlips
	Kyphosidae	drummers
	Labridae	wrasses
	Lethrinidae	emperors
	Lutjanidae	snappers
	Malacanthidae	sand tilefishes
	Monacanthidae	leatherjackets
	Mugilidae	mullets
	Mullidae	goatfishes
	Nemipteridae	coral breams
	Ostracidae	boxfishes
	Pinguipedidae	sandperches
	Pomacanthidae	angelfishes
	Pomacentridae	damselfishes
	Scaridae	parrotfishes
	Scomberidae	mackerels
	Scorpaenidae	scorpionfishes
	Serranidae	groupers
	Siganidae	rabbitfishes
	Sphyraenidae	barracudas
	Synodontidae	lizardfishes
	Tetraodontidae	puffers
	Zanclidae	moorish idol

Key Fisheries Species: Food Fishes

Key food fish species were defined as those targeted by commercial, artisanal and subsistence fisheries, which comprise important components of the catch in the Solomon Islands. A list of these species was compiled based on advice from the Solomon Islands Department of Fisheries and Marine Resources, local scientists, managers and fishermen (Table 3). All key fisheries species were counted (and their size estimated) during the survey of the coral reef fish communities described above (see *Coral Reef Fish Communities*).

Key fisheries species were compared among provinces, islands and sites based on the density and biomass of all species and key families (see *Coral Reef Fish Communities* above for calculations). Bony fishes and cartilaginous fishes (sharks and rays) were analysed separately. Density and biomass of large bony food fishes (30cm or more in size) were compared among provinces, so as not to identify individual sites where they were abundant.

Table 3. Key species of food fishes in the Solomon Islands.

Taxa/Family	Species	Common Name
Sharks	All species	Sharks
Mobulidae (manta rays)	*Manta* spp.	Manta rays
Myliobatidae (eagle rays)	*Aetobatus narinari*	Spotted eagle ray
Labridae (wrasses)	*Cheilinus undulates*	Humphead wrasse
	Cheilinus fasciatus	Redbreasted wrasse
Scaridae (parrotfishes)	*Bolbometopon muricatum*	Humphead parrotfish
	Hipposcarus longiceps	Pacific longnose parrotfish
	Chlorurus microrhinos	Steephead parrotfish
Serranidae (groupers)	*Plectropomus areolatus*	Squaretail coral grouper
	Plectropomus laevis	Blacksaddle coral grouper
	Plectropomus oligacanthus	Highfin coral grouper
	Plectropomus leopardus	Leopard coral grouper
	Epinephelus fuscoguttatus	Brown-marbled grouper
	Epinephelus polyphekadion	Camouflage grouper
	Epinephelus lanceolatus	Giant grouper
	Cromileptes altivelis	Barramundi cod
	Variola louti	Yellow-edged lyretail
	Variola albimarginata	White-edged lyretail
	Epinephalus merra/quoyanus	Honeycomb groupers
	Cephalopholis argus	Peacock grouper
	Cephalopholis cyanostigma	Bluespotted grouper
	Cephalopholis miniata	Coral grouper
Haemulidae (sweetlips)	*Plectorhinchus albovittatus*	Giant sweetlips
	Plectorhinchus vittatus	Oriental sweetlips
	Plectorhinchus lineatus	Diagonal-banded sweetlips
	Plectorhinchus chaetodonoides	Many-spotted sweelips

Taxa/Family	Species	Common Name
Lutjanidae (snappers)	*Aprion virescens*	Green jobfish
	Lutjanus gibbus	Humpback snapper
	Lutjanus bohar	Red snapper
	Lutjanus argentimaculatus	Mangrove red snapper
	Macolor niger	Black snapper
	Macolor macularis	Midnight snapper
	Symphorichthys spilurus	Sailfin snapper
	Small yellow and spot (= *L. monostigma, L. fulviflamma, L. ehrenbergii* etc)	Longspot/blackspot/onespot snapper
	Small & yellow lines (= *L. quinquelineatus, L. kasmira*)	Five-lined/bluestripe snapper
Lethrinidae (emperors)	*Lethrinus olivaceus*	Longface emperor
	Lethrinus erythropterus	Longfin emperor
	Lethrinus rubrioperculatus	Spotcheek emperor
	Lethrinus xanthochilus	Yellowlip emperor
	Monotaxis grandoculis	Humpnose bigeye bream
	Small lethrinids (*Lethrinus* spp.)	Small emperors
Acanthuridae (surgeonfishes)	*Naso hexacanthus*	Sleek unicornfish
	Naso lituratus	Orangespine unicornfish
	Naso unicornis	Bluespine unicornfish
	Naso brevirostris	Spotted unicornfish
	Large ringtails (*Acanthurus xanthopterus, A. mata, A.* nigricauda A. dussumieri, A. *blochi, A. fowleri* etc)	Ringtails
	Small surgeonfish: *Acanthurus lineatus* and *Ctenochaetus* species	Lined surgeonfish and Bristletooth
Siganidae (rabbitfishes)	*Siganus lineatus*	Lined rabbitfish
	Siganus vermiculatus	Vermiculate rabbitfish
	Siganus fuscescens	Dusky rabbitfish
	Siganus puellus	Masked rabbitfish
Mullidae (goatfishes)	*Parupeneus bifasciatus/trifasciatus*	Doublebar/Indian doublebar goatfish
	Parupeneus cyclostomus	Goldsaddle goatfish
	Parupeneus barberinus	Dash-dot goatfish
	Parupeneus vanicolensis	Yellowfin goatfish
Kyphosidae (drummers)	*Kyphosus* spp.	Drummer
Ostracidae (boxfishes)	*Ostracion cubicus*	Yellow boxfish
Caesionidae (fusiliers)	*Caesio cuning*	Yellowtail fusilier
Balistidae (triggerfishes)	*Balistoides viridescens*	Titan triggerfish
	Pseudobalistes flavimarginatus	Yellowmargin triggerfish
	Balistapus undulatus	Orange-lined triggerfish
Chanidae (milkfishes)	*Channos channos*	Milkfish
Holocentridae (soldierfishes and squirrelfishes[1])	*Sargocentron spiniferum*	Sabre squirrelfish
Carangidae (trevally)	*Caranx ignobilis*	Giant trevally
	Caranx sexfasciatus	Bigeye trevally
	Caranx papuensis	Brassy trevally
	Caranx melampygus	Bluefin trevally
Sphyraenidae (barracudas)	*Sphyraena* spp.	Barracuda

[1] Not counted in this survey, because they are nocturnal and not amenable to visual census methods.

Key Fisheries Species: Large and Vulnerable Reef Fishes

Key fisheries species of food fish that are large and particularly vulnerable to overfishing were counted (and their size estimated) using long swim methods specifically developed for this purpose (Choat and Spears 2003). They included:

- Sharks (all species), manta rays (*Manta* spp.) and eagle rays (*Aetobatus narinari*);
- Maori wrasse (*Cheilinus undulatus*);
- Humphead parrotfish (*Bolbometopon muricatum*) and steephead parrotfish (*Chlorurus microrhinos*);
- Large groupers (*Epinephelus fuscoguttatus, Epinephelus polyphekadion, Epinephelus lanceolatus, Cromileptes altivelis, Variola louti* and *Variola albimarginata*);
- Giant trevally (*Caranx ignobilis*); and
- Large and uncommon emperors (*Lethrinus olivaceus*, *Lethrinus erythropterus*, *Lethrinus rubrioperculatus* and *Lethrinus xanthochilus*).

This method was developed to improve estimates of the abundance of these species, since they tend to be uncommon and clumped in distribution, so smaller transects dimensions (eg 50m x 5m) are not suitable for obtaining reasonable estimates of their abundance. In this method, the observer surveys a wide area during a single pass of the reef slope over a set time period (15 mins) scanning the reef slope for these species. When a standard width is used (20m), these estimates can be converted to a standardised area (density per hectare).

Density and biomass of large, vulnerable species were compared among provinces only, so as not to identify individual sites where they are abundant.

Key Fisheries Species: Aquarium Fishes

Aquarium fishes were defined as those targeted for export by the aquarium trade in the Solomon Islands. A list of these species was defined based on advice from the Solomon Islands Department of Fisheries and Marine Resources, local scientists, managers and fishermen (Table 4). These species were counted (and their size estimated) during the survey of the coral reef fish communities described above (see *Coral Reef Fish Communities*).

Aquarium fish densities were compared among provinces, islands and sites based on the density of all species, key families and key species. Data analysis focused on density only, since aquarium fish are sold by the "piece" and not by weight.

Reptiles and Mammals

Observations of rare and threatened species (sea turtles, crocodile, dugong, and cetaceans) were recorded during the long swims (see *Key Fisheries Species: Large and Vulnerable Reef Fishes* above).

Table 4. Key species of aquarium fishes in the Solomon Islands.

Family	Taxa	Species
Acanthuridae	*Acanthurus* spp.	All *Acanthurus* species
	Paracanthurus hepatus	*Paracanthurus hepatus*
	Zebrasoma spp.	All *Zebrasoma* species
Balistidae	*Balistoides* spp.	All *Balistoides* species
	Odonus niger	*Odonus niger*
	Rhinecanthus spp.	All *Rhinecanthus* species
	Sufflamen spp.	All *Sufflamen* species
Chaetodontidae	All species	All chaetodontid species
Cirrhitidae	*Cirrhitichthys* spp.	All *Cirrhitichthys* species
	Paracirrhites spp.	All *Paracirrhites* species
Haemulidae	*Plectorhinchus* spp.	All *Plectorhinchus* species
Labridae	*Anampses* spp.	All *Anampses* species
	Bodianus spp.	All *Bodianus* species
	Cirrhilabrus spp.	All *Cirrhilabrus* species
	Coris gaimard	*Coris gaimard*
	Halichoeres spp.	All *Halichoeres* species
	Labrichthyes spp.	All *Labrichthyes* species
	Labroides spp.	All *Labroides* species
	Labropsis spp.	All *Labropsis* species
	Macropharyngodon spp.	All *Macropharyngodon* species
	Pseudocheilinus hexataenia	All *Pseudocheilinus hexataenia*
	Stethojulis spp.	All *Stethojulis* species
	Thalassoma spp.	All *Thalassoma* species
Monacanthidae	*Oxymonacanthus longirostris*	*Oxymonacanthus longirostris*
Pomacanthidae	*Apolemichthys* spp.	All *Apolemichthys* species
	Centropyge spp.	All *Centropyge* species
	Pygoplites spp.	All *Pygoplites* species
	Pomacanthus navarchus	All *Pomacanthus navarchus*
	Pomacanthus imperator	All *Pomacanthus imperator*
	Pomacanthus spp.	All *Pomacanthus* species
Pomacentridae	*Amphprion* spp.	All *Amphprion* species
	Chromis viridis	All *Chromis viridis*
	Chromis spp.	All *Chromis* species
	Chrysiptera cyanea	All *Chrysiptera cyanea*
	Chyrisptera spp.	All *Chyrisptera* species
	Dascyllus spp.	All *Dascyllus* species
	Plectroglyphidodon dickii	All *Plectroglyphidodon dickii*
	Premnas biaculeatus	*Premnas biaculeatus*
Scaridae	*Cetoscarus bicolor*	*Cetoscarus bicolor*
Serranidae	*Cephalopholis* spp.	All *Cephalopholis* spp.
	Pseudanthias spp.	All *Pseudanthias* spp.
Tetraodontidae	*Arothron* spp.	All *Arothron* spp.

Results

A total of 110,640 coral reef fishes were counted on reef slopes at 66 sites in seven provinces in the Solomon Islands. The following is a general description the coral reef fish communities (all species recorded), and key fisheries species (food fishes and aquarium fishes) based on the transect data. Special consideration is given to large, vulnerable species that are particularly vulnerable to overfishing based on the long swim data. Observations of rare and threatened species (dugong and turtle) from the long swim data are also recorded.

Small to medium size reef fishes were not surveyed at four sites in the Western Province due to logistic constraints (Figure 1): two sites in the Shortland Islands (Sites 27 and 28: Onua and Faisi respectively) and two sites in New Georgia (Sites 29 and 30: Vella Levella and Njari respectively). Therefore, the following results should be considered an underestimate for those sites.

Coral Reef Fish Communities

Coral reef fish communities are described based on their species richness, density and biomass.

Species Richness

A total of 37 families and 383 species were counted during this survey (Appendix 1). Species richness varied among provinces, islands and sites (Figure 3), ranging from 20 to 50 species at most sites. There was no clear pattern associated with province or island, although species richness tended to be highest in the Central (Russell Islands and Savo Island), Choiseul, Isabel (Arnavon Islands), Makira (particularly Ugi Island), and Western Provinces (both New Georgia and Shortland Islands). With some exceptions, species richness tended to be higher at exposed than sheltered sites in adjacent areas.

Density

Bony fishes were most abundant, accounting for 99.9% of the fish counted (Table 5). The most abundant families were damselfishes, fusiliers, surgeonfishes, snappers and wrasses, followed by fairy basslets, parrotfishes and emperors. Sharks and rays were uncommon, accounting for less than 0.1% of the fishes counted (Table 5).

Density was highly variable among provinces, islands, exposures and sites (Figure 4). The highest densities were recorded in Central, Choiseul, Isabel (including the Arnavon Islands), Makira (particularly the offshore islands of Three Sisters and Ugi Island) and the Western Provinces, with lower densities recorded in Guadalcanal and Malaita. There was no clear pattern associated with exposure, with higher densities recorded on exposed sites at some locations and at sheltered sites at others, although the highest overall densities were recorded at sheltered sites. In general, sites with the highest densities were due to high densities damselfishes, with fusiliers, snappers, surgeonfishes, fairy basslets, wrasses, emperors, parrotfishes, drummers, and triggerfishes also abundant at some sites (Appendix 2).

Table 5. Relative abundance of each fish family in the Solomon Islands.

Order	Family	Common Name	Relative Density (% of total)	Relative Biomass (% of total)
Bony Fishes	Pomacentridae	Damselfishes	67.7	5.7
	Caesionidae	Fusiliers	7.8	8.2
	Acanthuridae	Surgeonfishes	4.8	10.6
	Lutjanidae	Snappers	4.5	21.2
	Labridae	Wrasses	4.2	1.3
	Serranidae (Anthiinae)	Fairy Basslets	2.1	0.1
	Scaridae	Parrotfishes	2.1	14.6
	Lethrinidae	Emperors	2.0	7.8
	Chaetodontidae	Butterflyfishes	0.8	0.8
	Balistidae	Triggerfishes	0.7	2.8
	Kyphosidae	Drummers	0.7	3.9
	Mullidae	Goatfishes	0.6	0.7
	Pomacanthidae	Angelfishes	0.5	0.4
	Siganidae	Rabbitfishes	0.4	1.4
	Carangidae	Trevallies	0.2	1.3
	Serranidae (Epinephelinae)	Groupers	0.2	0.8
	Nemipteridae	Coral Breams	0.1	0.1
	Haemulidae	Sweetlips	0.1	1.2
	Chanidae	Milkfish	0.1	0.1
	Zanclidae	Moorish Idols	0.1	0.1
	Cirrhitidae	Hawkish	0.1	<0.1
	Scombridae	Mackerels	<0.1	<0.1
	Tetraodontidae	Puffers	<0.1	0.1
	Monacanthidae	Leatherjackets	<0.1	<0.1
	Pinguipedidae	Sandperches	<0.1	<0.1
	Aulostomidae	Trumpetfishes	<0.1	<0.1
	Synodontidae	Lizardfishes	<0.1	<0.1
	Ostracidae	Boxfishes	<0.1	<0.1
	Malacanthidae	Sand Tilefishes	<0.1	<0.1
	Platacidae	Batfishes	<0.1	<0.1
	Sphyraenidae	Barracudas	<0.1	0.5
	Echneneidae	Remoras	<0.1	<0.1
	Fistularidae	Flutemouths	<0.1	<0.1
		Total	**99.9**	**84.0**
Sharks & Rays	Carcharinidae	Whaler Sharks	<0.1	3.0
	Hemigaleidae	Weasel Sharks	<0.1	0.3
	Unidentified sharks	Unident. Sharks	<0.1	0.2
	Mobulidae	Manta Rays	<0.1	12.3
	Myliobatididae	Eagle Rays	<0.1	0.1
		Total	**<0.1**	**15.9**

Biomass

Bony fishes accounted for most of the biomass (84.0%: Table 5), although sharks and rays were also important (15.9%: Table 5). Most of the biomass of bony fishes was accounted for by snappers, parrotfishes, surgeonfishes, fusiliers and emperors, with damselfishes, drummers, sharks and triggerfishes also important (Table 5, Appendix 3). While most of the biomass of sharks and rays was accounted for by manta rays, with whaler sharks also important.

Biomass was highly variable among provinces, islands, exposures and sites (Figure 5). The particularly high biomass at Site 55 on Malaita was due to the presence of the large manta ray, while the high biomass at Site 27 in the Shortland Islands was due to the presence of large schools of snappers, emperors, surgeonfishes, and parrotfishes (Appendices 2 and 3).

The highest biomass of bony fishes was recorded in the Central (Russell Islands Sites 38 and 41), Choiseul (Sites 17, 21, and 22), Isabel (Site 11, and Site 15 in the Arnavon Islands), Makira (Site 44) and Western Provinces (New Georgia Site 29, and Site 27 in the Shortland Islands: Appendix 3).

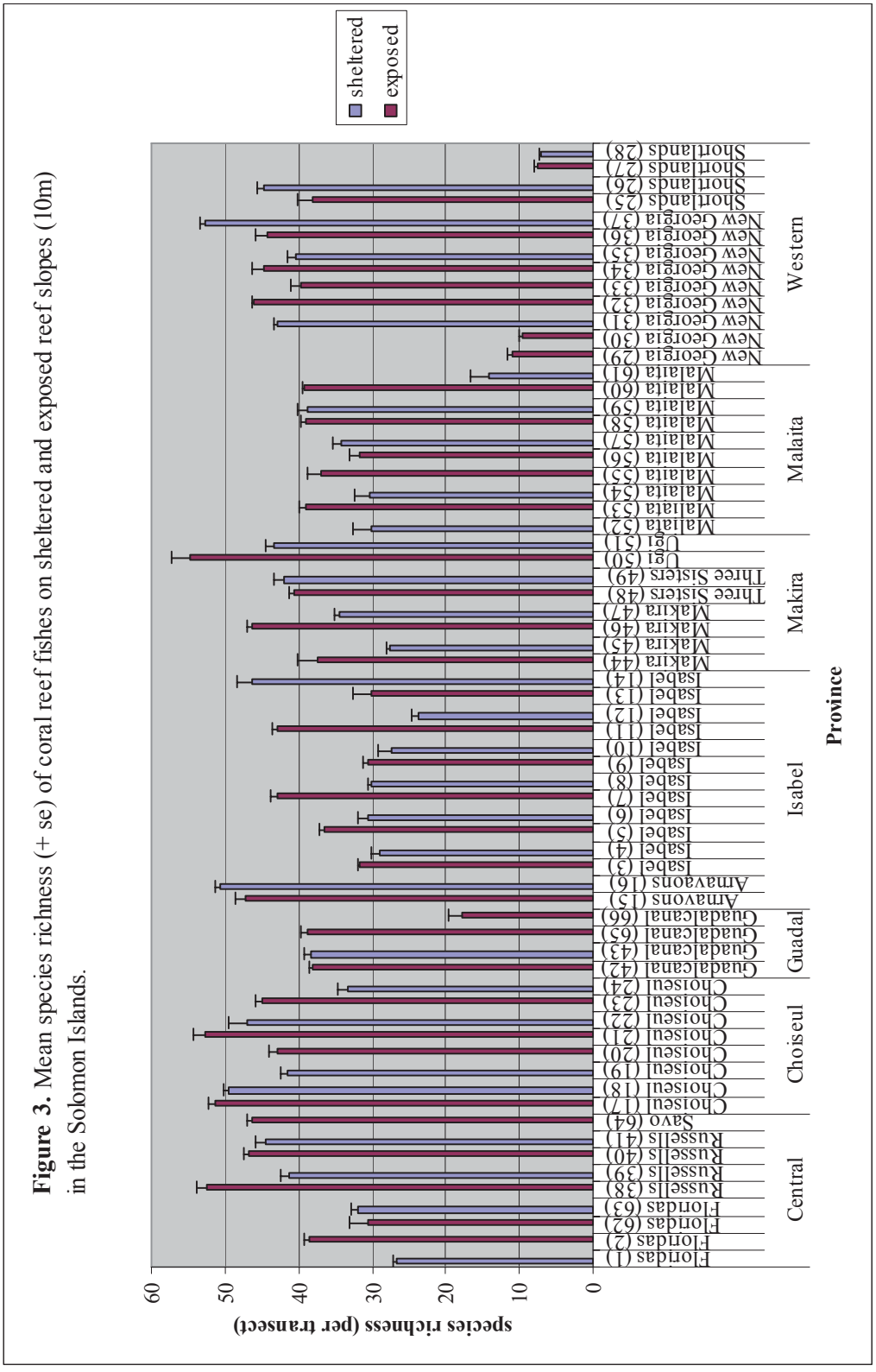


Figure 3. Mean species richness (+ se) of coral reef fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

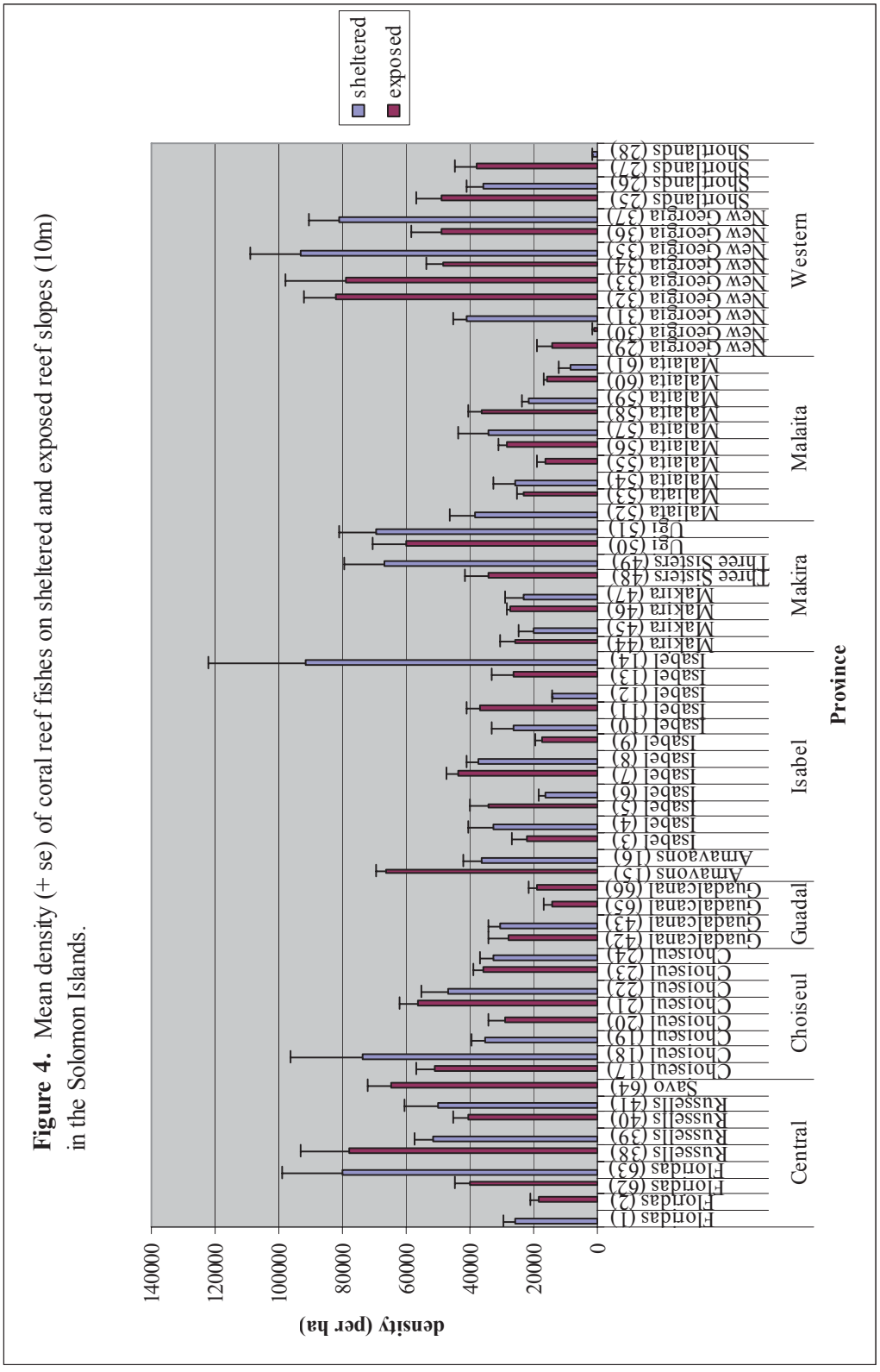


Figure 4. Mean density (+ se) of coral reef fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

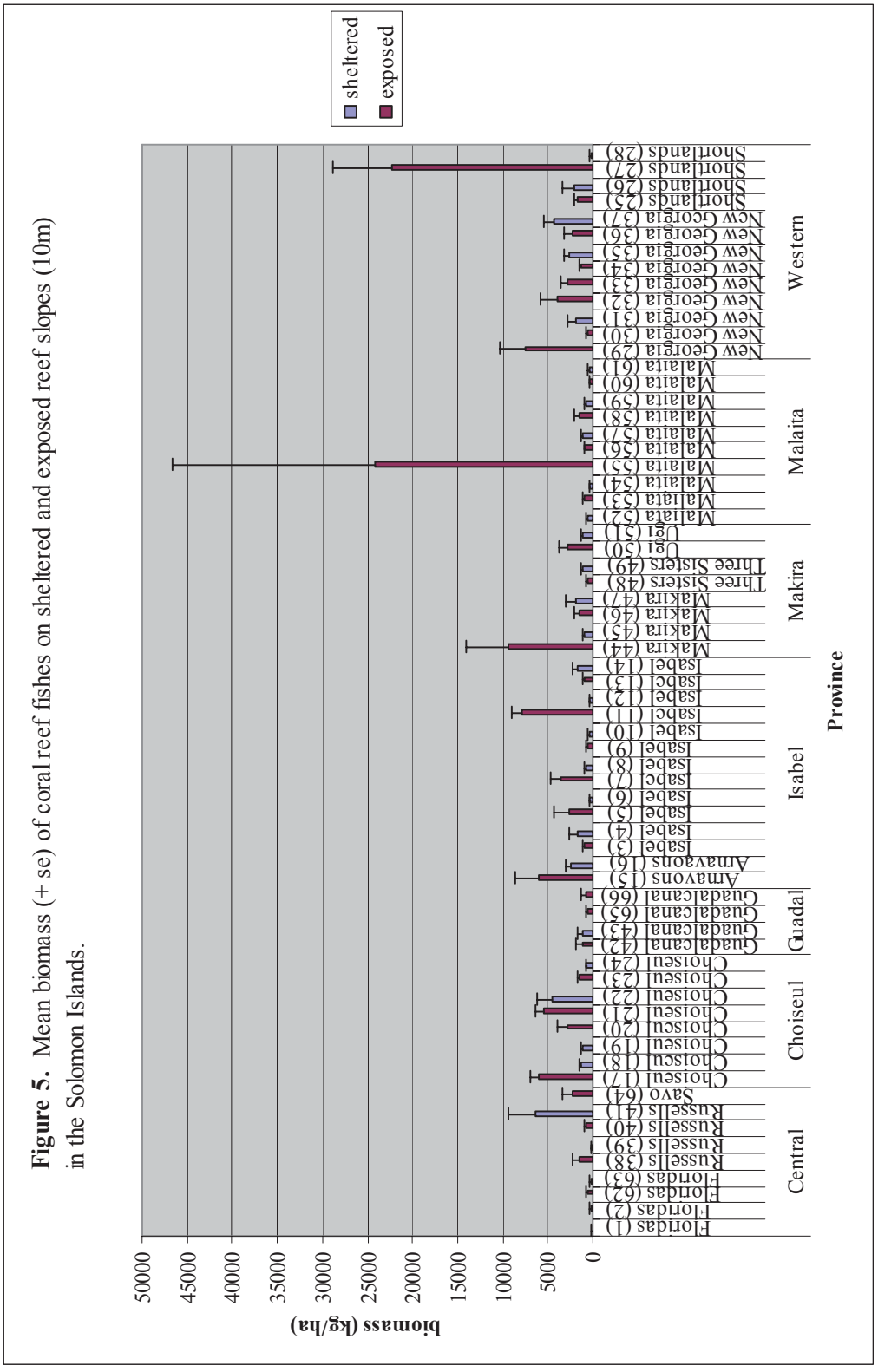


Figure 5. Mean biomass (+ se) of coral reef fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

KEY FISHERIES SPECIES: FOOD FISHES SIGHTED ON TRANSECT SWIMS

A total of 54,792 food fishes (bony fishes, sharks and rays), comprising 20 families and 87 species, were counted throughout seven provinces during this survey. Populations of food fishes are described based on their distribution and abundance (density and biomass) throughout the survey area.

Density

Bony fishes were most abundant, accounting for 99.9% of the food fishes counted (Table 6). The most abundant families were snappers, fusiliers and surgeonfishes, followed by emperors, parrotfishes, drummers, goatfishes and triggerfishes (Table 6). Sharks and rays were much less abundant, accounting for less than 0.1% of the fishes counted (Table 6).

Density of bony food fishes was highly variable among provinces, islands, exposures and sites (Figure 6). The highest densities were recorded in Western, Central (Russell Islands), Choiseul, Isabel (including Arnavon Islands), and Makira Provinces, with lower densities recorded in Guadalcanal, Malaita and Central (Florida Islands) Provinces. There was no clear pattern associated with exposure at adjacent sites, with higher densities recorded at exposed sites at some locations and at sheltered sites at others. The high densities recorded at some sites were due to high densities of snappers, surgeonfishes, emperors, parrotfishes and fusiliers (e.g. Shortlands Site 27), with drummers, goatfishes and triggerfishes also important at some sites (Appendix 4).

The highest densities of key fisheries species of snappers, surgeonfishes, emperors, and parrotfishes were recorded in Western, Isabel (including Arnavon Islands), Choiseul, Central (Russell Islands), and Makira Provinces (Figures 7-10, Appendix 4). The most abundant genera of food fishes were (Appendices 5 and 6): *Lutjanus* and *Macolor* (snappers), *Acanthurus*, *Ctenochaetus* and *Naso* (surgeonfishes), *Lethrinus* and *Monotaxis* (emperors), *Hipposcarus* (parrotfishes) and *Caesio* (fusiliers).

In contrast, only low densities of snappers, emperors and parrotfishes, were recorded in Guadalcanal and Malaita Provinces, and in the Florida Islands and Savo Island in Central Province (Figures 7, 9 and 10). This pattern was most pronounced for the key fisheries species of parrotfishes (Figure 10), which were rare on Guadalcanal.

Key fisheries species of grouper were not abundant in the survey area, with the highest density recorded in the Arnavon Islands (Figure 11), were *Plectropomus* and *Variola* were most abundant (Appendix 5). Only low densities of *Epinephelus* and *Cromileptes* were recorded throughout the survey area (Appendix 5), particularly those species targeted by the live reef food fish trade (Appendix 7): brown-marbled grouper (*Epinephelus fuscoguttatus*), camouflage grouper (*E. polyphekadion*), and squaretail coral grouper (*Plectropomus areolatus*).

Table 6. Relative abundance of each family of food fish in the Solomon Islands.

Order	Family	Common Name	Relative Density (% of total)	Relative Biomass (% of total)
Bony Fishes	Lutjanidae	Snappers	24.76	25.40
	Caesionidae	Fusiliers	22.72	4.92
	Acanthuridae	Surgeonfishes	22.13	11.78
	Lethrinidae	Emperors	9.75	8.96
	Scaridae	Parrotfishes	5.14	14.25
	Kyphosidae	Drummers	3.62	4.69
	Mullidae	Goatfishes	2.57	0.64
	Balistidae	Triggerfishes	2.57	3.07
	Siganidae	Rabbitfishes	1.97	1.61
	Carangidae	Trevally	1.24	1.52
	Labridae	Wrasses	1.21	0.86
	Serranidae	Groupers	0.89	0.86
	Haemulidae	Sweetlips	0.68	1.46
	Chanidae	Milkfishes	0.67	0.17
	Ostracidae	Boxfishes	0.02	0.02
	Sphyraenidae	Barracuda	0.01	0.67
		Total	**99.9**	**80.9**
Sharks & Rays	Carcharinidae	Whaler sharks	0.03	3.60
	Hemigaleidae	Weasel Sharks	0.02	0.36
	Unidentified Sharks	Unidentified sharks	0.01	0.22
	Myliobatididae	Eagle rays	<0.01	0.09
	Mobulidae	Manta rays	<0.01	14.83
		Total	**<0.1**	**19.1**

Density of large reef fishes (30cm or more in size) was highest on exposed reefs slopes in most provinces (Figure 12). Density was highest in Western Province, followed by Isabel, Makira, Choiseul and Central Provinces. Density was lower in Guadalcanal and Malaita. The moderate to high densities of large reef fishes on the exposed reef slopes in most provinces was due to a high density of snappers, with emperors, parrotfishes, drummers and emperors also important in some locations (Appendix 8).

Sharks and rays were uncommon throughout the Solomon Islands (Appendix 4). Sharks were recorded in low densities in all provinces except Malaita, while rays were recorded in two provinces only: Malaita and Guadalcanal.

Biomass

Bony fishes accounted for most of the biomass of food fishes (80.9%: Table 6), although sharks and rays were also important (19.1%: Table 6). Most of the biomass of bony fishes was accounted for by snappers, parrotfishes, surgeonfishes, emperors, fusiliers, drummer and triggerfishes (Table 6, Appendix 9). While most of the biomass of sharks and rays was accounted for by manta rays, with whaler sharks also important.

Biomass of bony fishes was highly variable among provinces, islands, sites and exposure (Figure 13). The highest biomass was recorded in the Western Province (Shortland Islands Site 27), with moderate to high biomass recorded at some sites in the Makira, Central (Russell Islands), Choiseul and Isabel Provinces (including the Arnavon Islands). Only low biomass was recorded in Guadalcanal, Malaita, and Central Provinces (Florida Islands). The high biomass of bony

fishes at most sites were due to a high biomass of snappers, parrotfishes, drummers, emperors, and surgeonfishes, with fusiliers and triggerfishes also important at some sites (Appendix 9).

The highest biomass of key fisheries species of snappers, surgeonfishes, emperors, and parrotfishes were recorded in Western, Isabel (including Arnavon Islands), Choiseul, Makira and Central Provinces (Russell Islands: Figures 14-17, Appendix 9). Genera that accounted for most of the biomass of these families were (Appendices 10 and 11): *Lutjanus* and *Macolor* (snappers), *Bolbometopon* and *Hipposcarus* (parrotfishes). *Acanthurus* and *Naso* (surgeonfishes), and *Monotaxis* (emperors).

In contrast, only low biomass of snappers, emperors and parrotfishes, were recorded in Guadalcanal and Malaita Provinces, and in the Florida Islands and Savo Island in Central Province (Figures 14-17, Appendix 9). This pattern was most pronounced for the key fisheries species of parrotfishes (Figure 17), which were rare on Guadalcanal.

Only low biomass of key fisheries species of grouper were recorded throughout the survey area, with the highest biomass recorded in the Arnavon Islands (Figure 18). The highest biomass was recorded by coral trout (*Plectropomus*) and lyretail groupers (*Variola*), with the highest biomass recorded in the Arnavon Islands, Choiseul and New Georgia (Appendix 10). Only low biomass of *Cephalopholis*, *Cromileptes* and *Epinephelus* were recorded throughout the survey area (Appendix 10), particularly those species targeted by the live reef food fish trade (Appendix 12): brown-marbled grouper (*Epinephelus fuscoguttatus*), camouflage grouper (*E. polyphekadion*), and squaretail coral grouper (*Plectropomus areolatus*).

The biomass of large reef fishes (30cm or more in size) was highest on exposed reefs slopes in most provinces (Figure 19). Biomass was highest in Western Province, followed by Makira, Isabel, Choiseul and Central Provinces. Biomass was lowest in Guadalcanal and Malaita. The moderate to high biomass of large reef fishes on the exposed reef slopes in most provinces was due to a high biomass of snappers, emperors, surgeonfishes and parrotfishes, with drummers and triggerfishes also important in some locations (Appendix 13).

Low to moderate biomass of sharks was recorded in all provinces except Malaita where no sharks were recorded (Appendix 9 and 13). A high biomass of rays was recorded at one site in Malaita (Site 55) due to the presence of a large manta ray at that site. A low biomass of rays was also recorded at one site on Guadalcanal (Site 43).

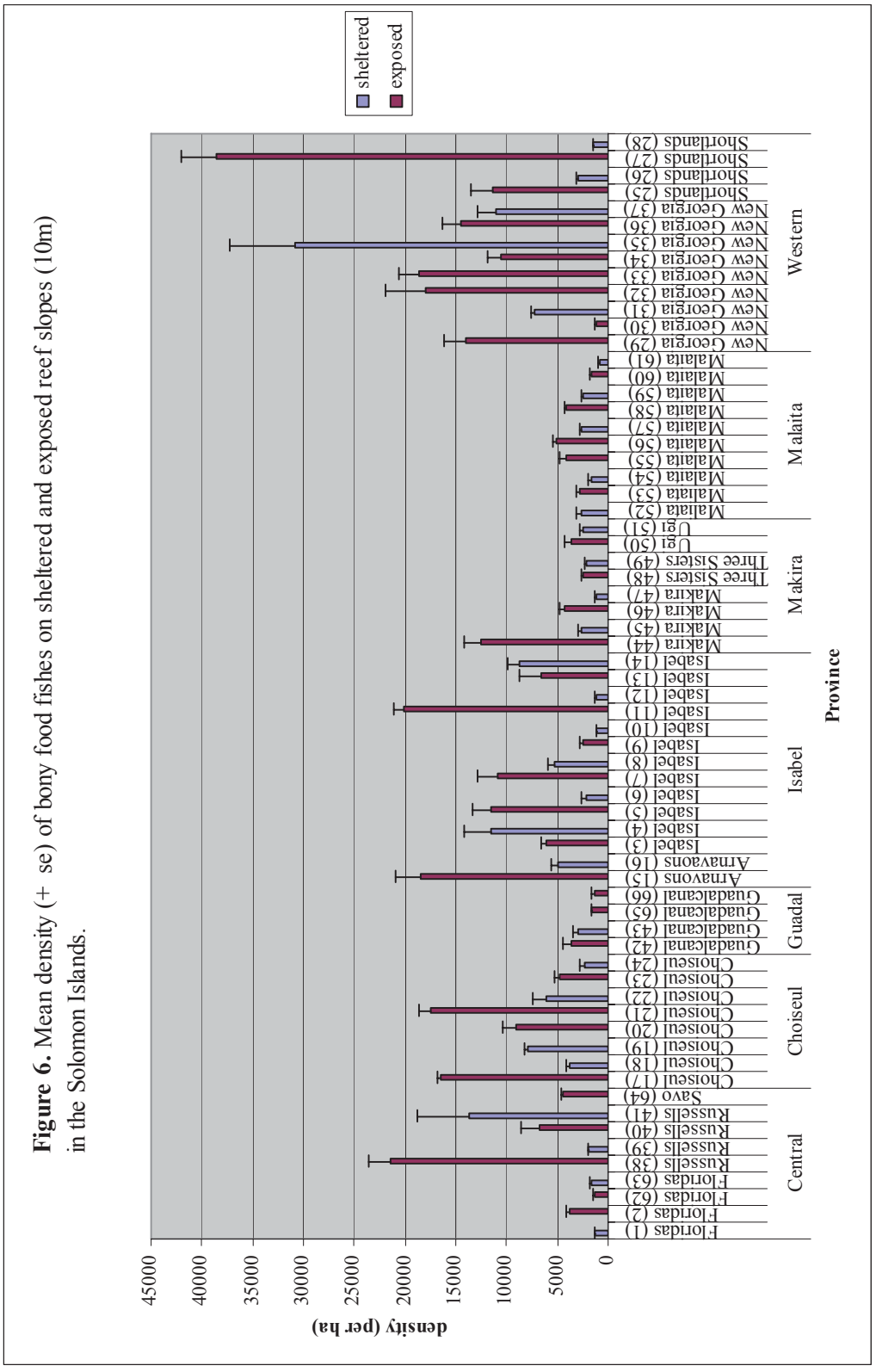


Figure 6. Mean density (+ se) of bony food fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

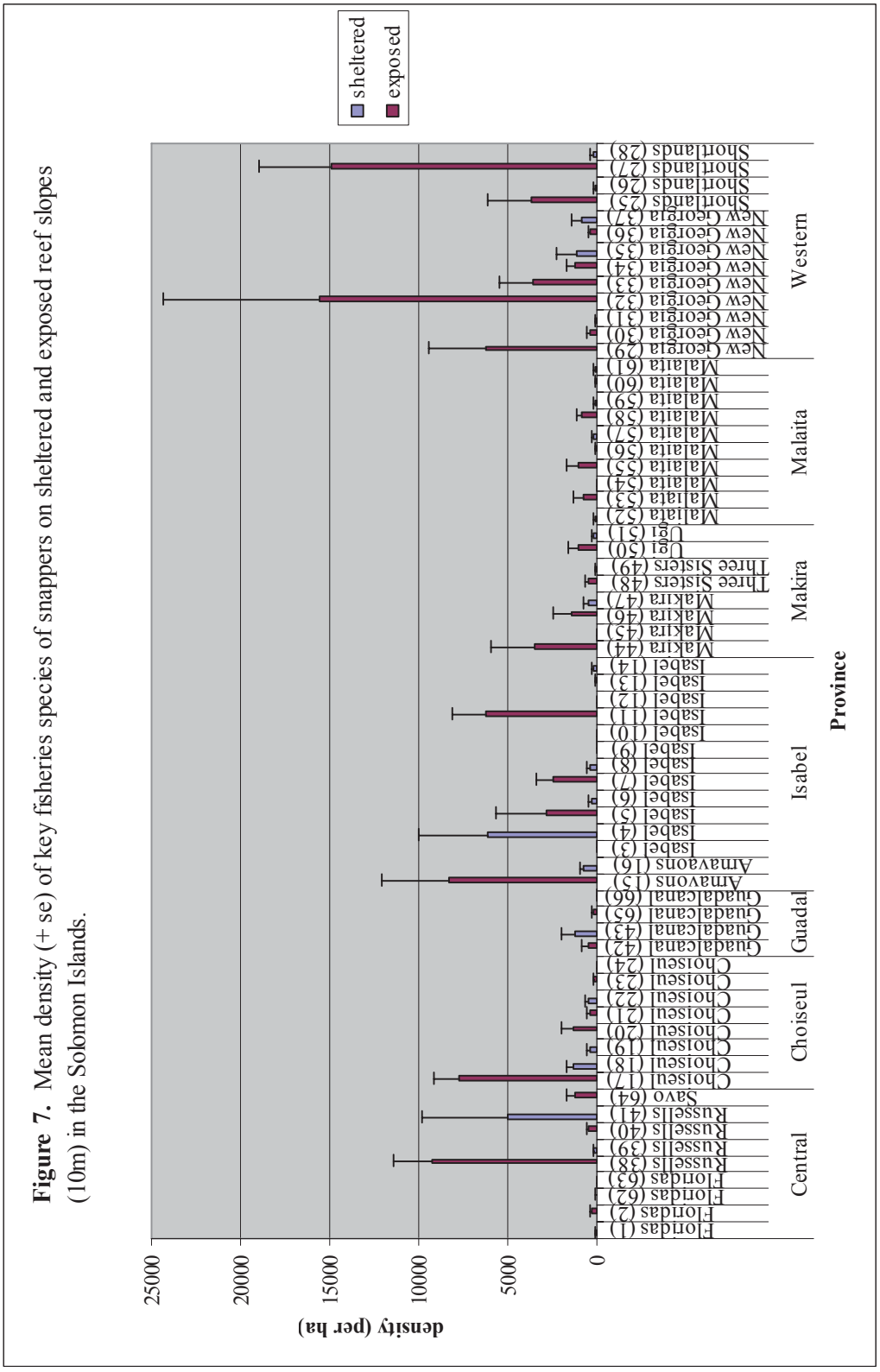


Figure 7. Mean density (+ se) of key fisheries species of snappers on sheltered and exposed reef slopes (10m) in the Solomon Islands.

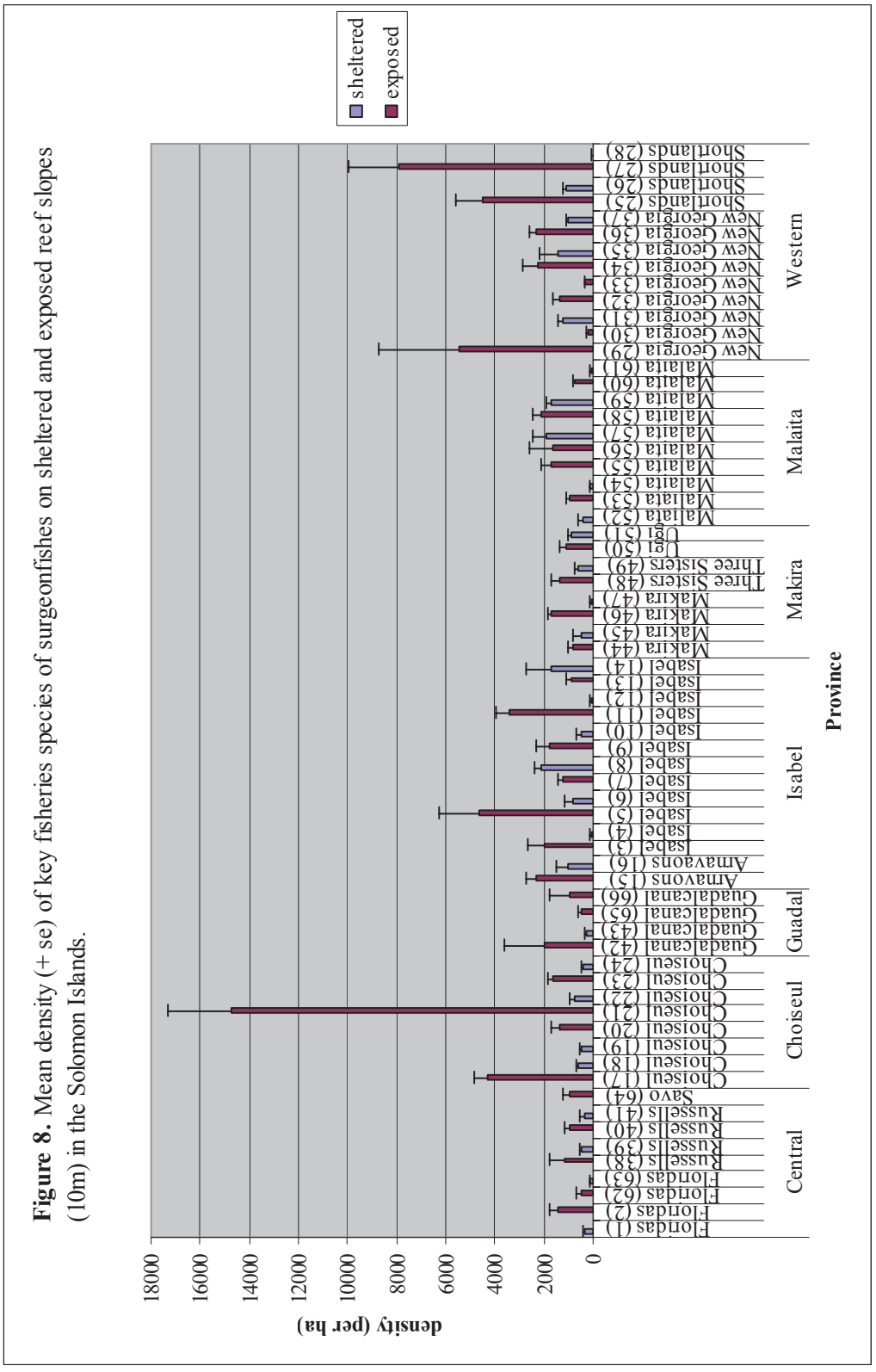


Figure 8. Mean density (+ se) of key fisheries species of surgeonfishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

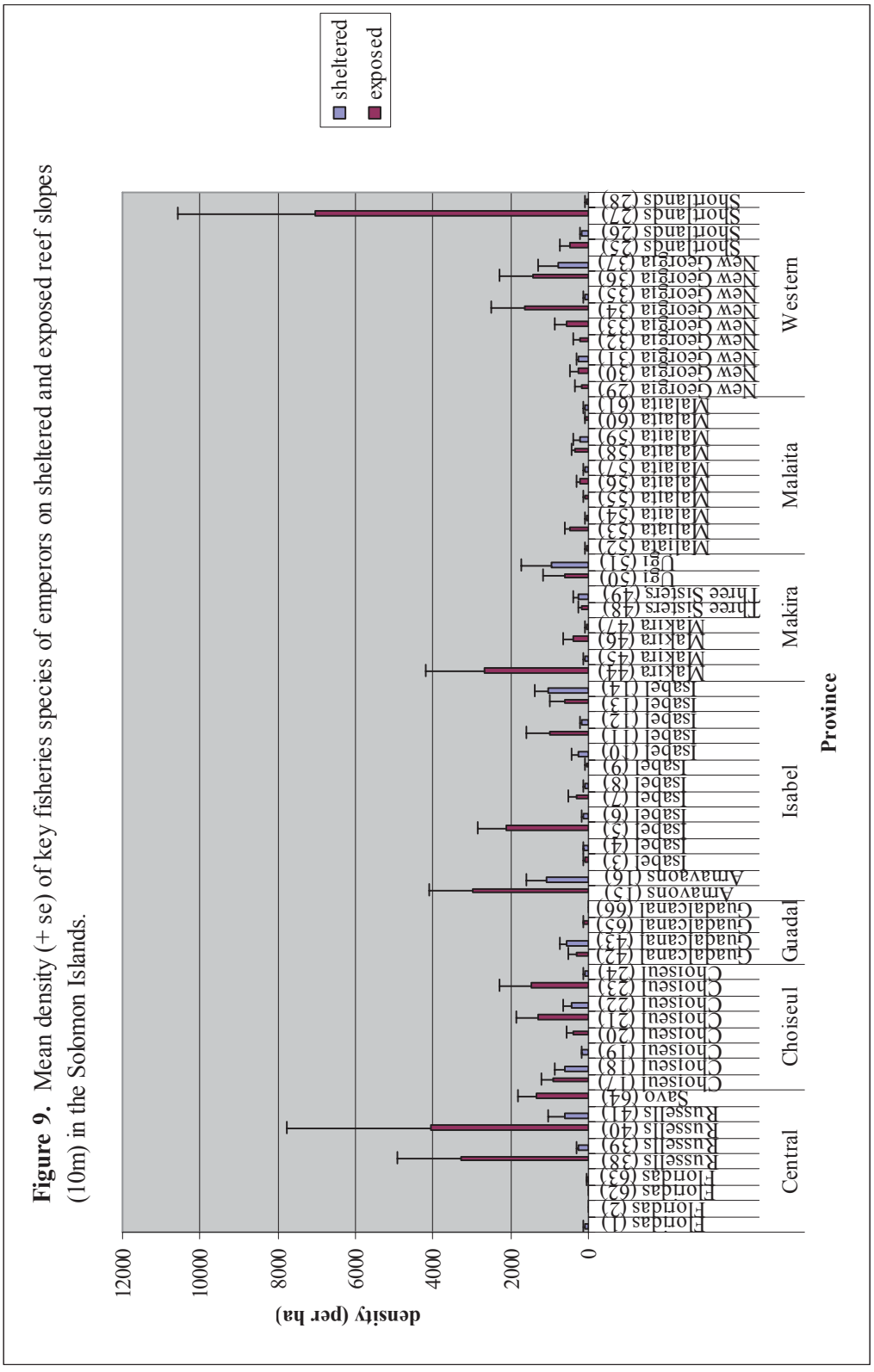


Figure 9. Mean density (+ se) of key fisheries species of emperors on sheltered and exposed reef slopes (10m) in the Solomon Islands.

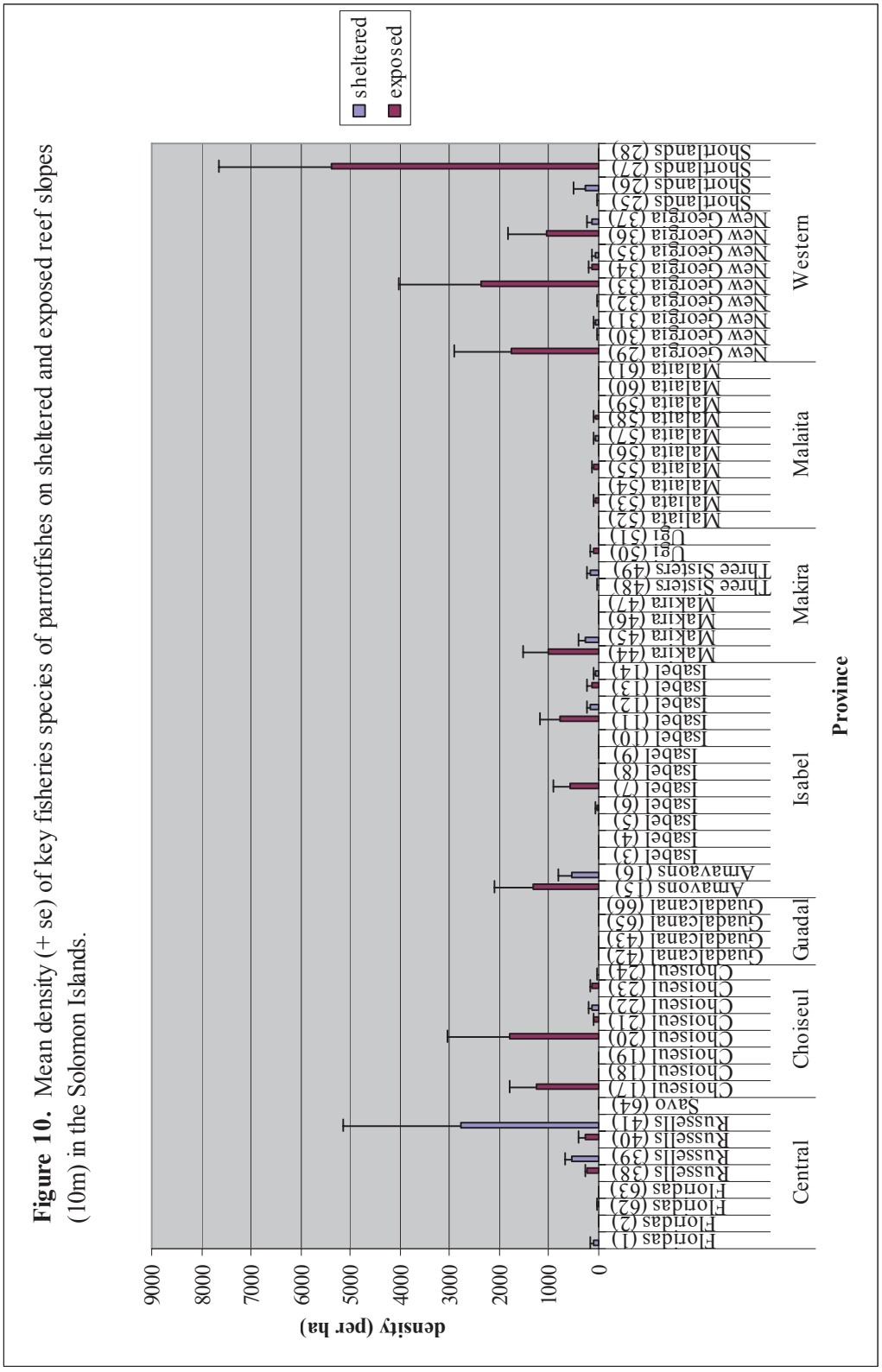


Figure 10. Mean density (+ se) of key fisheries species of parrotfishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

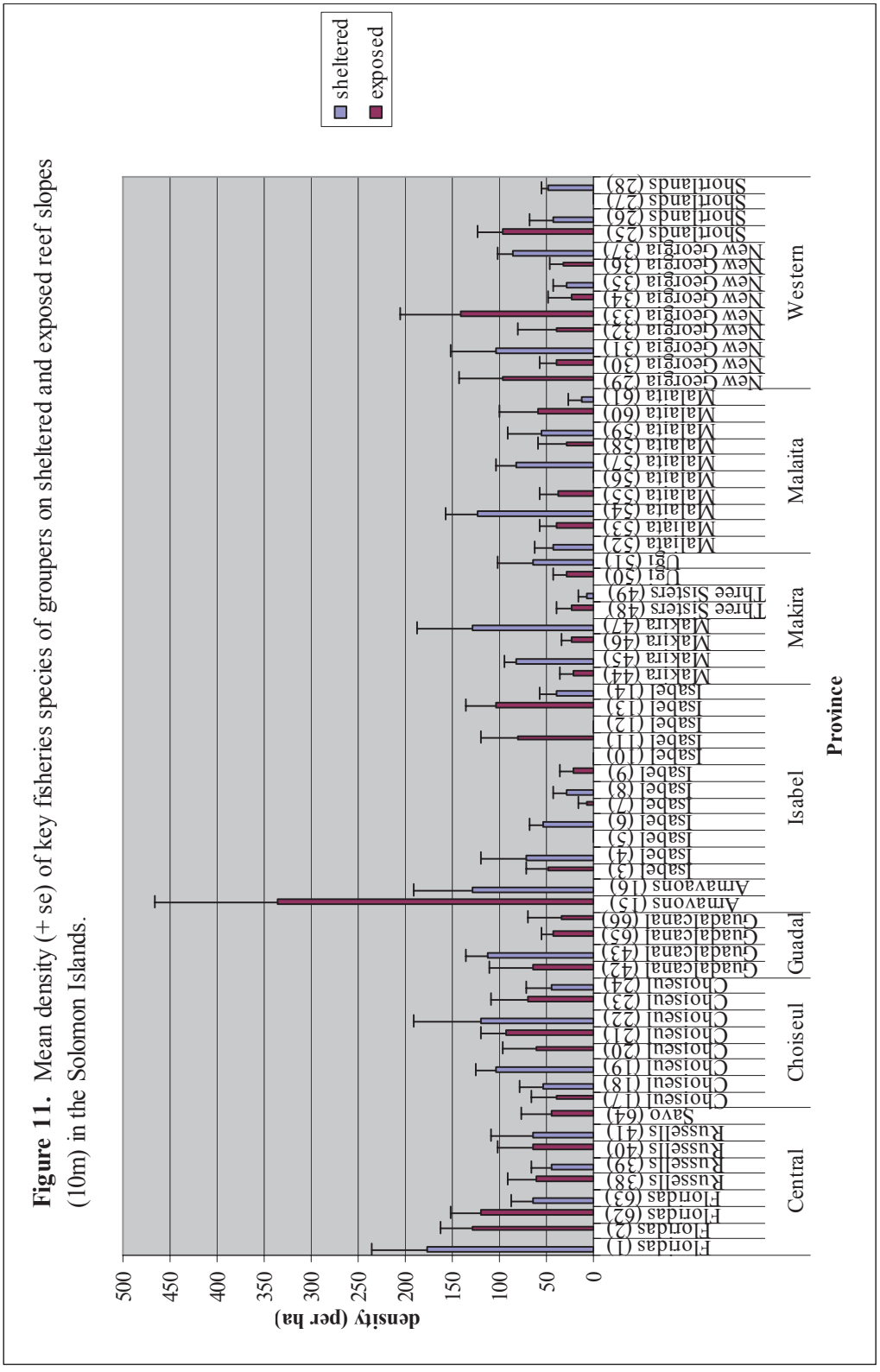
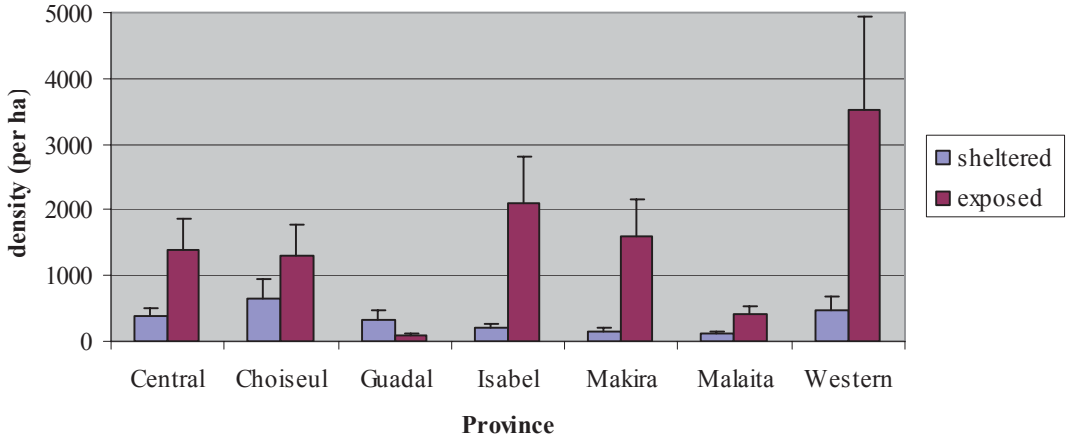


Figure 11. Mean density (+ se) of key fisheries species of groupers on sheltered and exposed reef slopes (10m) in the Solomon Islands.

Figure 12. Mean density (+ se) of large bony reef fishes (≥30cm) on sheltered and exposed reef slopes (10m) in the Solomon Islands.



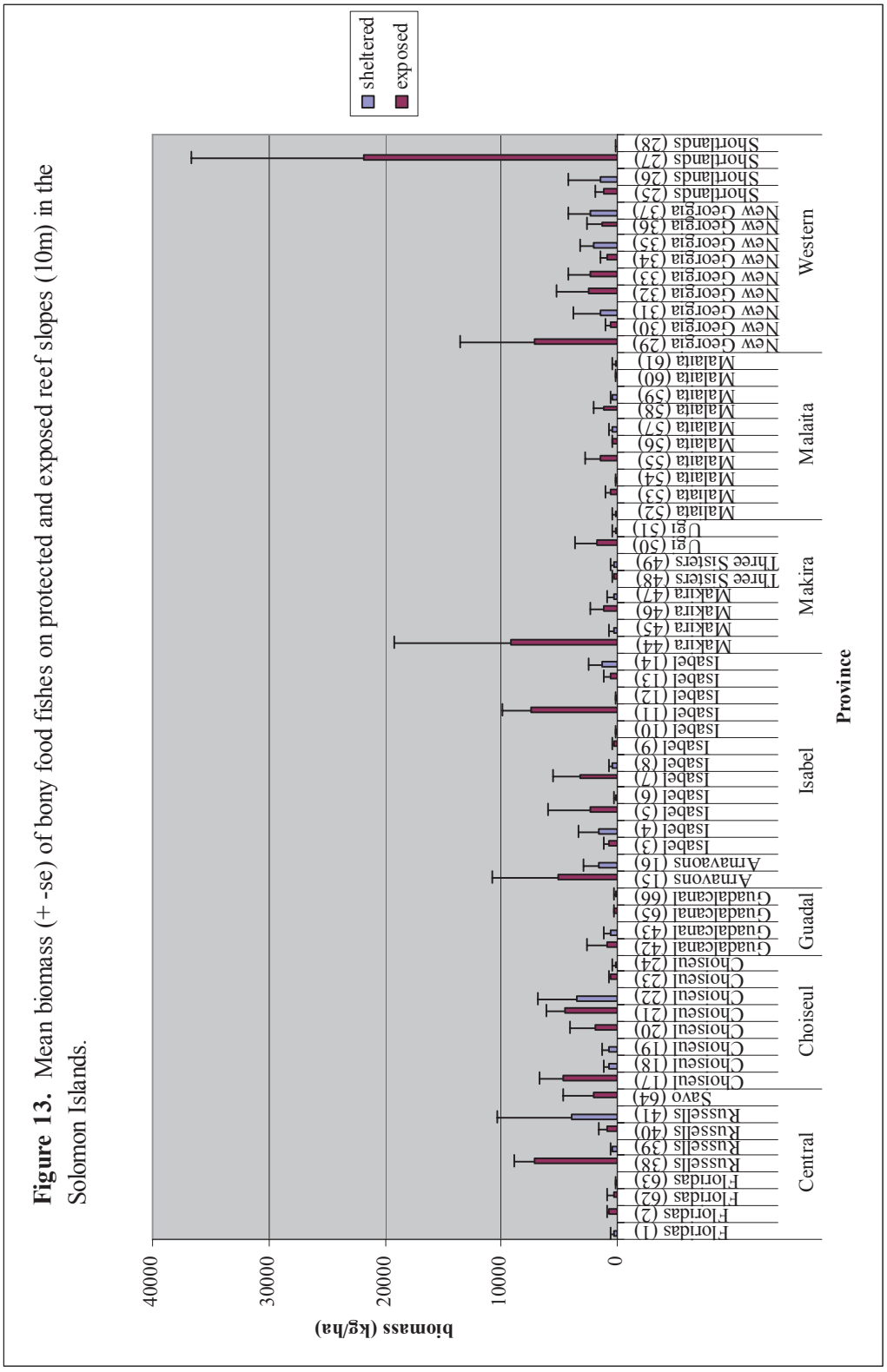


Figure 13. Mean biomass (+ -se) of bony food fishes on protected and exposed reef slopes (10m) in the Solomon Islands.

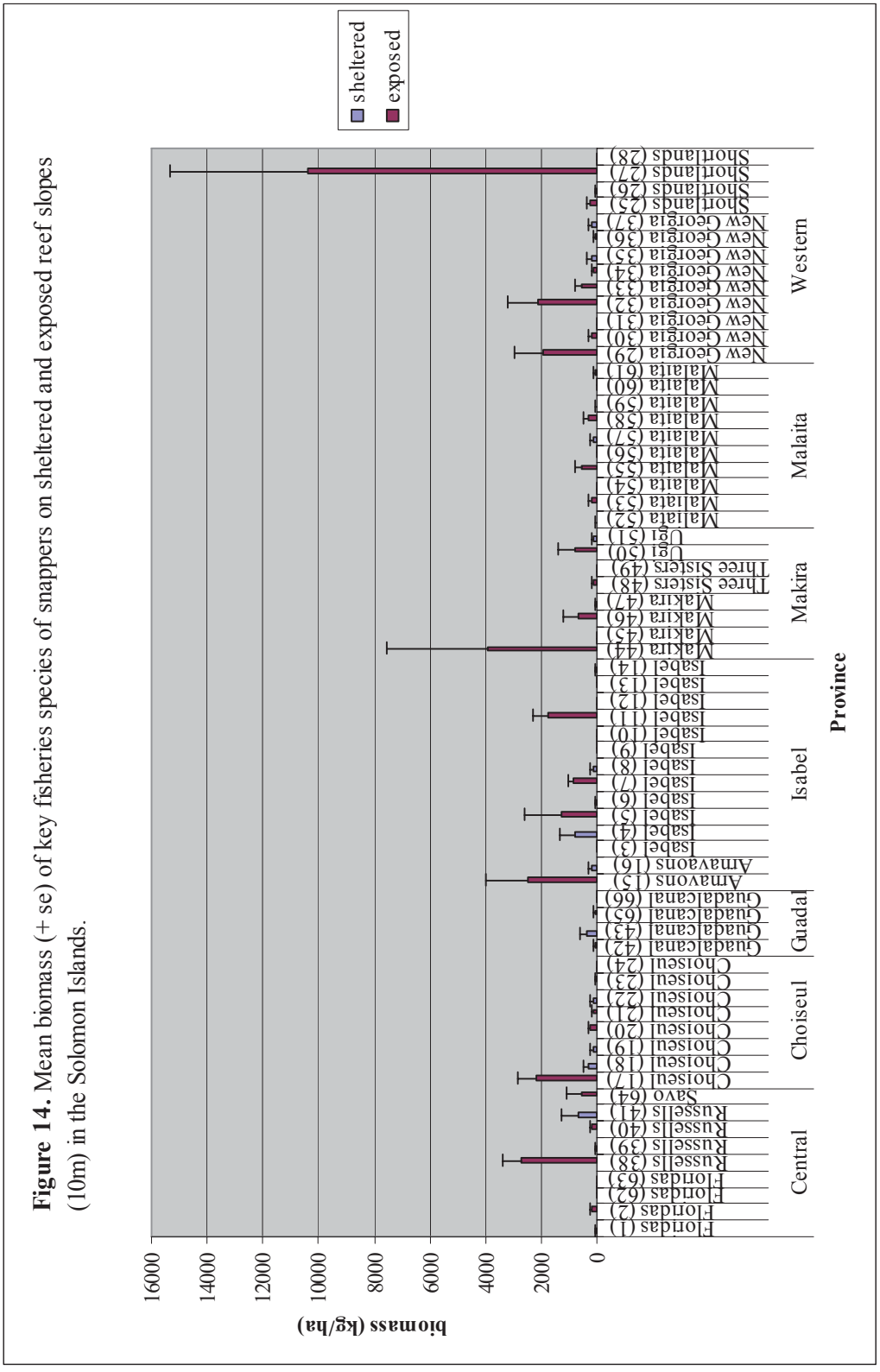


Figure 14. Mean biomass (+ se) of key fisheries species of snappers on sheltered and exposed reef slopes (10m) in the Solomon Islands.

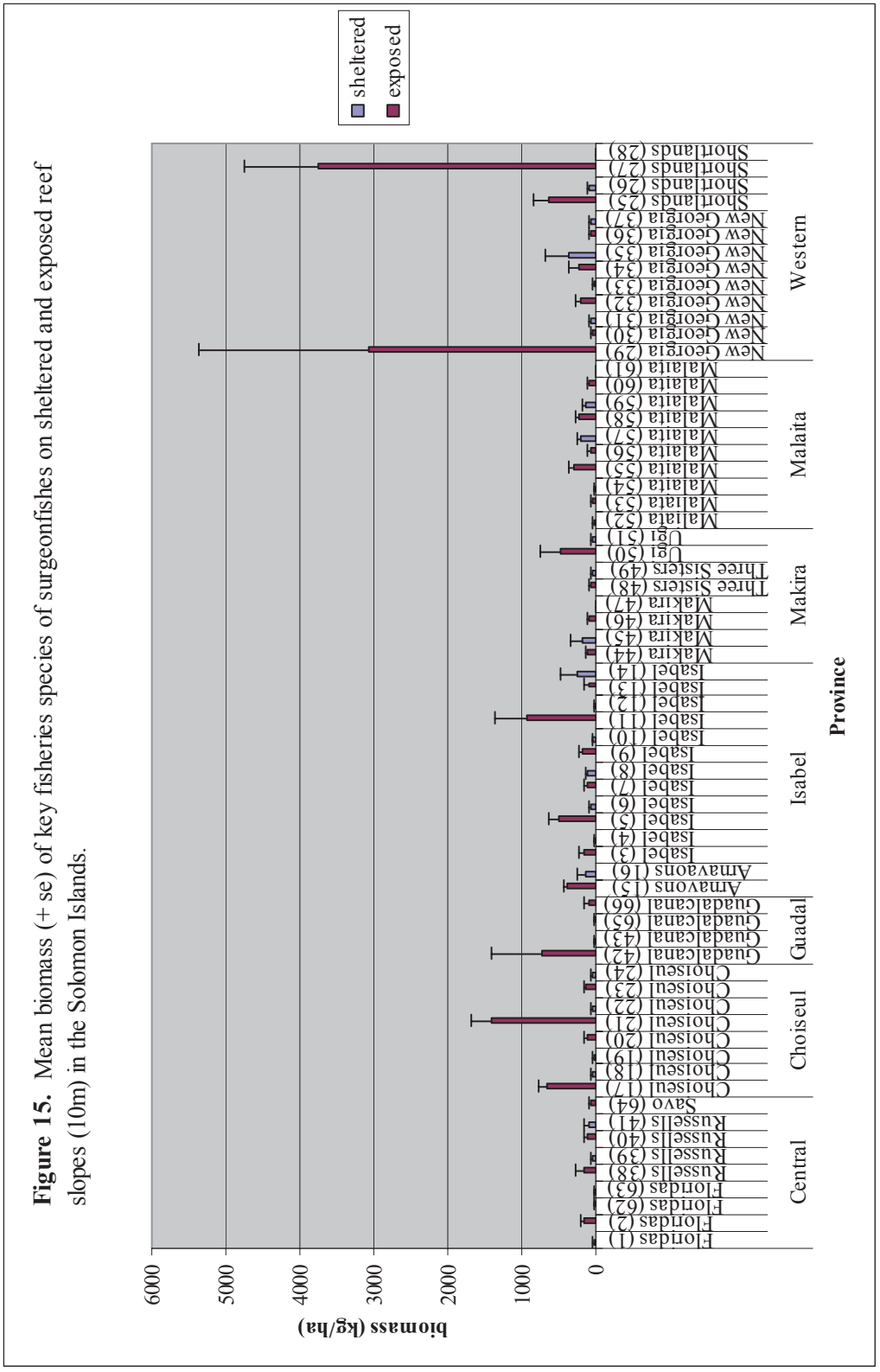


Figure 15. Mean biomass (+ se) of key fisheries species of surgeonfishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

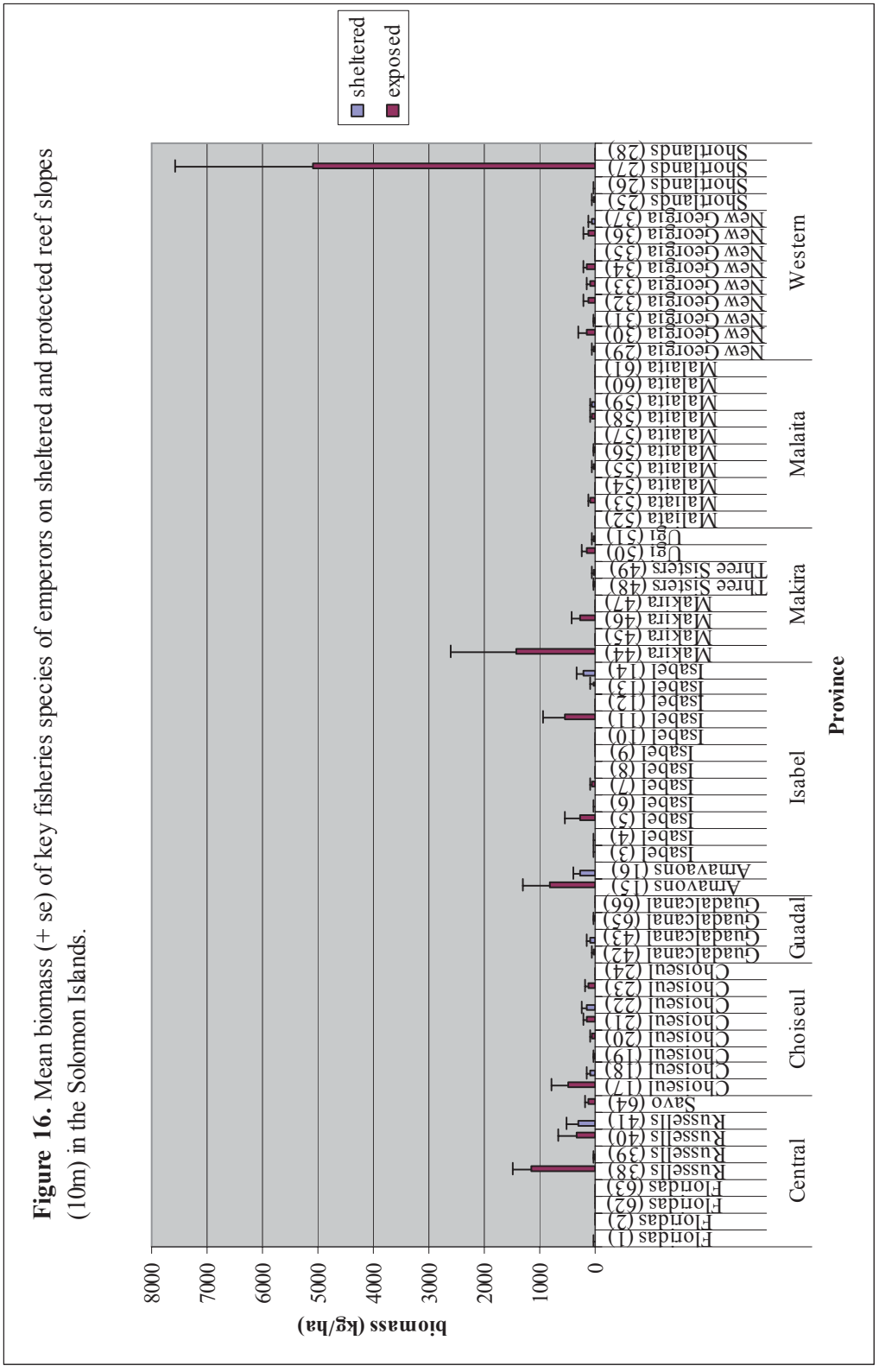


Figure 16. Mean biomass (+ se) of key fisheries species of emperors on sheltered and protected reef slopes (10m) in the Solomon Islands.

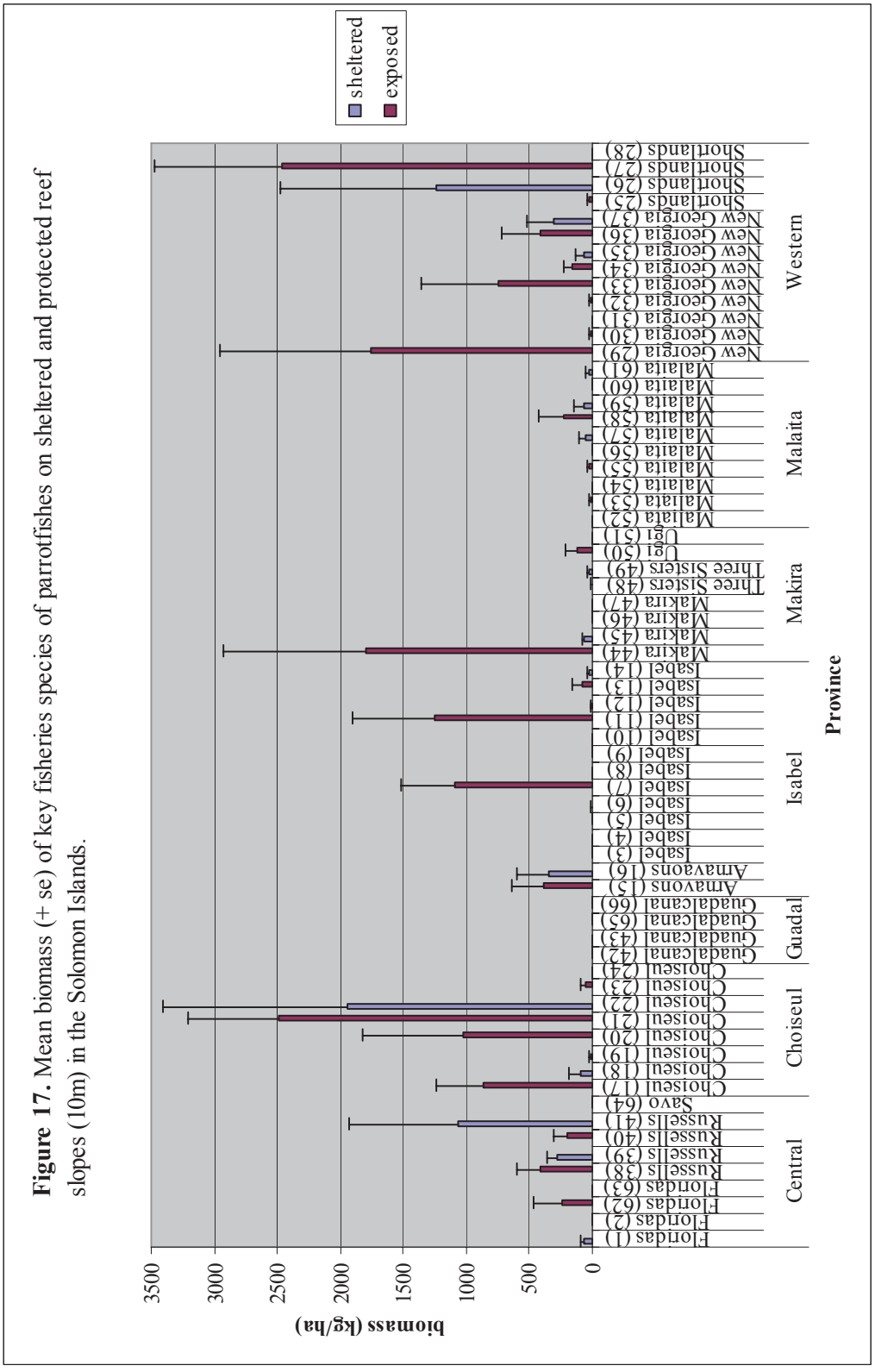


Figure 17. Mean biomass (+ se) of key fisheries species of parrotfishes on sheltered and protected reef slopes (10m) in the Solomon Islands.

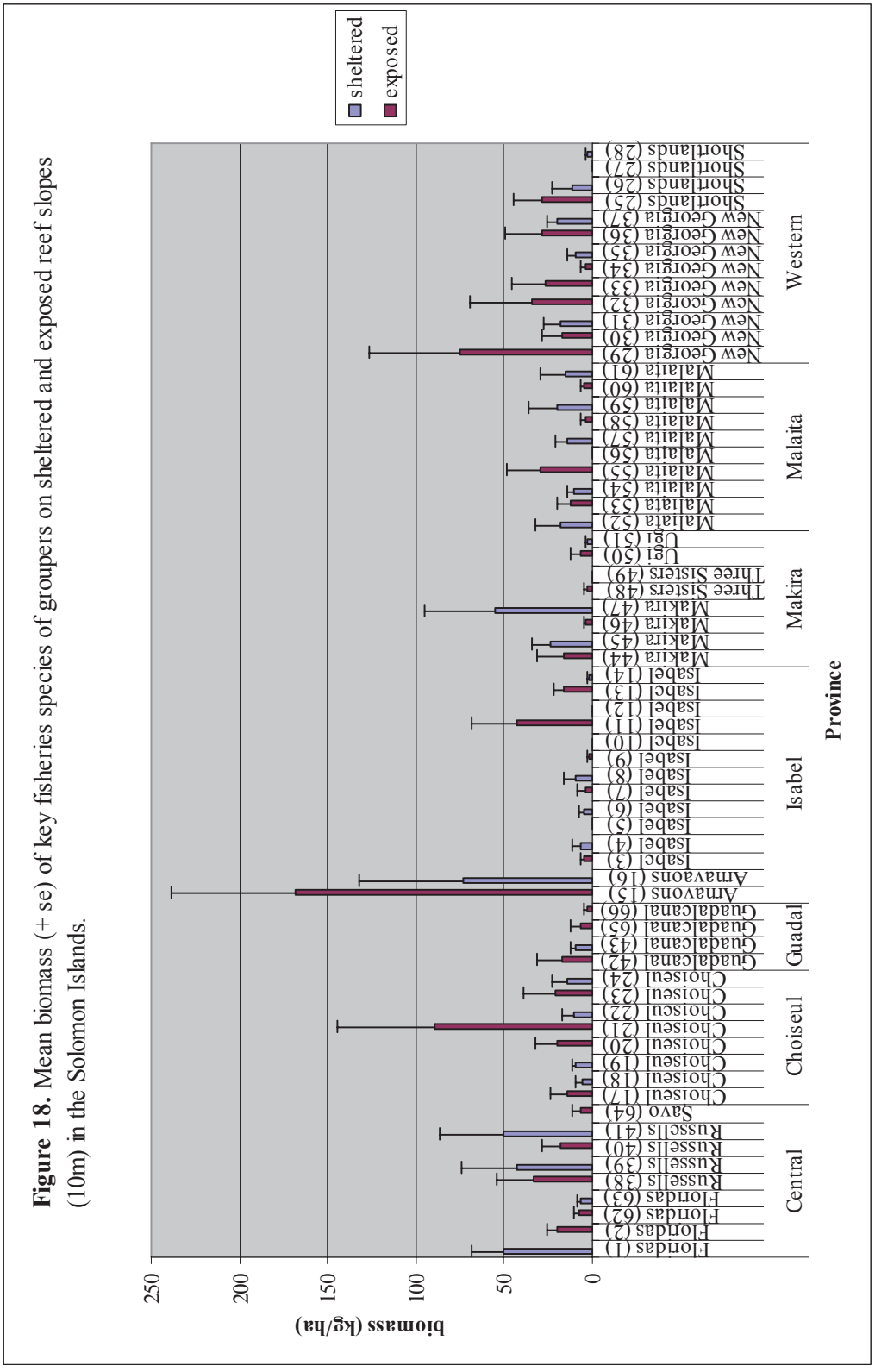
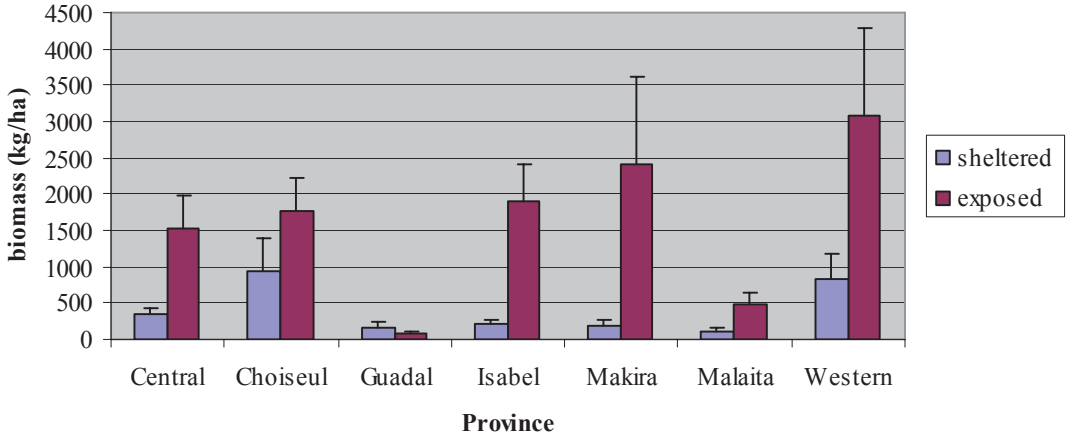


Figure 18. Mean biomass (+ se) of key fisheries species of groupers on sheltered and exposed reef slopes (10m) in the Solomon Islands.

Figure 19. Mean biomass (+ se) of large bony reef fishes (>30cm) on sheltered and exposed reef slopes (10m) in the Solomon Islands.



KEY FISHERIES SPECIES: LARGE, VULNERABLE REEF FISHES SIGHTED ON LONG SWIMS

Density

The density of large, vulnerable reef fishes sighted along long timed swims was low throughout the study area, and varied among provinces and exposures (Figure 20). Density was highest on exposed than sheltered reef slopes in most provinces, except Makira and Isabel. The highest densities were recorded in Makira, Choiseul and Western Provinces, followed by Isabel, Guadalcanal, Malaita and Central Provinces.

However, the species that comprised the highest densities varied among sites. For example, the relatively high density recorded on sheltered sites in Makira was largely comprised of emperors, particularly longface emperors (Appendix 14). In contrast, the relatively high density recorded on exposed sites in Choiseul Province was largely due to a mixture of groupers, humphead wrasses, steephead parrotfishes, and emperors, while the moderately high density recorded in Western Province was due to a mixture of parrotfishes and humphead wrasses.

Different patterns of abundance were apparent when each species was considered individually. Humphead wrasses were more abundant on exposed than sheltered reef slopes in most provinces, except Central Province (Figure 21). The highest densities of this species were recorded in Choiseul and Central Provinces, followed by Western, Makira, Guadalcanal, Isabel and Malaita (Figure 21, Appendix 14).

Humphead parrotfishes were also most abundant on exposed reef slopes, with the highest density recorded in the Western Province, followed by Isabel Province (Figure 22, Appendix 14). This species was less abundant in the other provinces, and was not recorded on Guadalcanal at all. Similarly, a low to moderate density of the steephead parrotfish was recorded in all provinces, except Guadalcanal (Appendix 14).

Barramundi cod and giant trevally were rare throughout the survey area, and were only observed in Isabel Province (Appendix 14). Two species of grouper targeted by the live reef food fish trade, the brown-marbled grouper and camouflage grouper were also rare, with only a few individuals recorded in a few provinces (Figures 23 and 24, Appendix 14). The yellow-edged lyretail and white-edge lyretail were relatively more abundant, particularly in Choiseul, Guadalcanal, Central and Isabel Provinces (Appendix 14). In contrast, large emperors were most abundant in Makira, Isabel, Choiseul, and Malaita Provinces.

Sharks were uncommon, but recorded in low numbers in most Provinces except Central and Isabel. Rays were also uncommon, and were only recorded in Isabel and Western Provinces.

Biomass

A different pattern was apparent when biomass was considered (Figure 25). While the biomass of all large, vulnerable reef fishes combined also tended to be higher on the exposed than protected reef slopes, the highest biomass recorded was in the Western Province. This was due to a high biomass of humphead parrotfish, manta rays and humphead wrasse recorded in that province (Appendix 15). Most of the biomass at the other sites was also accounted for by humphead parrotfishes and humphead wrasses, except for Guadalcanal where a white tip reef shark was observed.

Different patterns were apparent when each species was considered individually. The highest biomass of humphead wrasse was recorded in Choiseul Province, followed by Western Province (Figure 26, Appendix 15), with lower densities recorded elsewhere. In contrast, biomass of humphead parrotfishes was highest in Western Province, followed by Isabel Province (Figure 27, Appendix 15). This species was less abundant in the other provinces, and was not recorded on Guadalcanal at all. Similarly, a low to moderate biomass of the steephead parrotfish was recorded in all provinces, except Guadalcanal (Appendix 15).

Biomass of most other species was low throughout the survey area (Appendix 15), particularly for two species targeted by the live reef food fish trade: brown-marbled grouper and camouflage grouper (Figures 28 and 29 respectively). Exceptions were the low to moderate biomass recorded for longface emperor in Makira Province, manta rays in Western Province, and whitetip reef sharks in Guadalcanal.

Figure 20. Mean density (+ se) of large, vulnerable reef fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

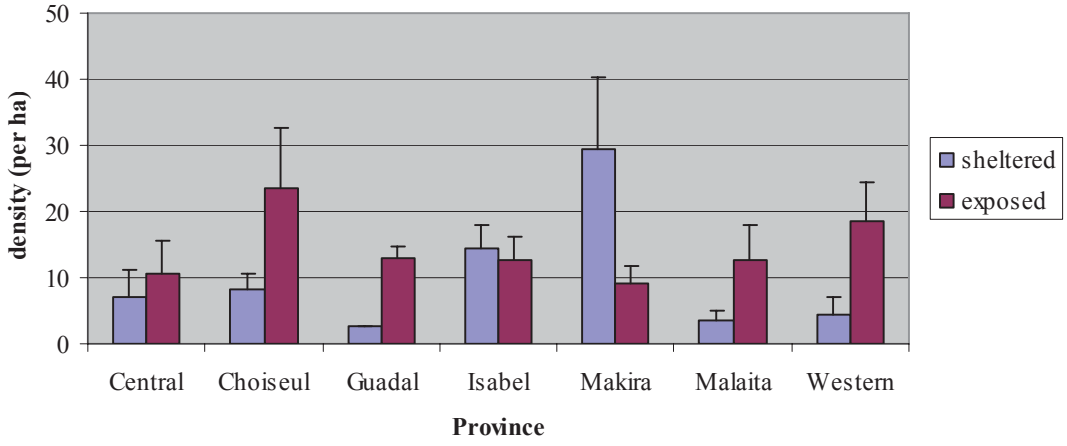


Figure 21. Mean density (+ se) of humphead wrasse on sheltered and exposed reef slopes (10m) in the Solomon Islands.

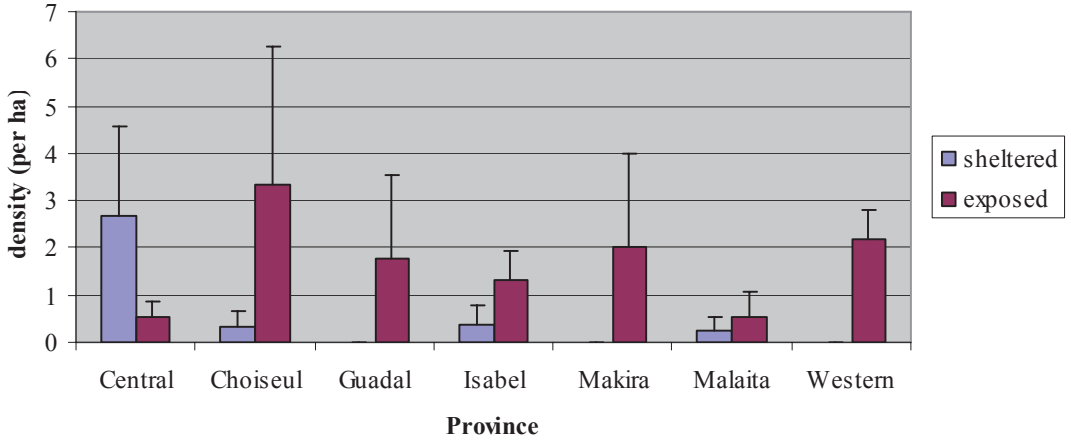


Figure 22. Mean density (+ se) of humphead parrotfish on sheltered and exposed reef slopes (10m) in the Solomon Islands.

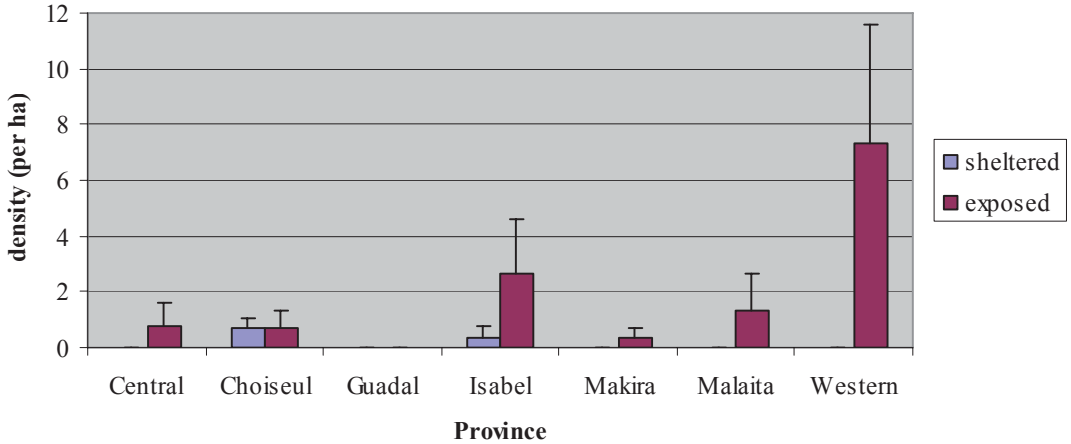


Figure 23. Mean density (+ se) of brown-marbled grouper on sheltered and exposed reef slopes (10m) in the Solomon Islands.

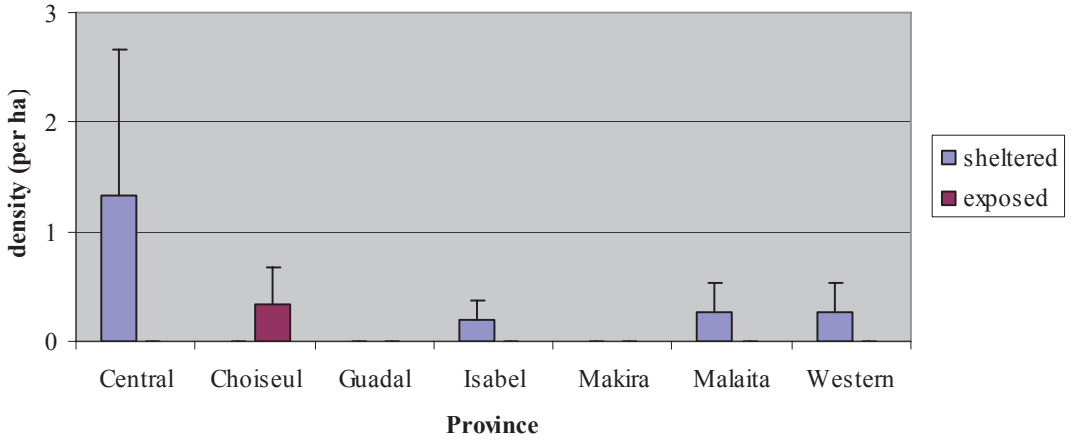


Figure 24. Mean density (+ se) of camouflage grouper on sheltered and protected reef slopes (10m) in the Solomon Islands.

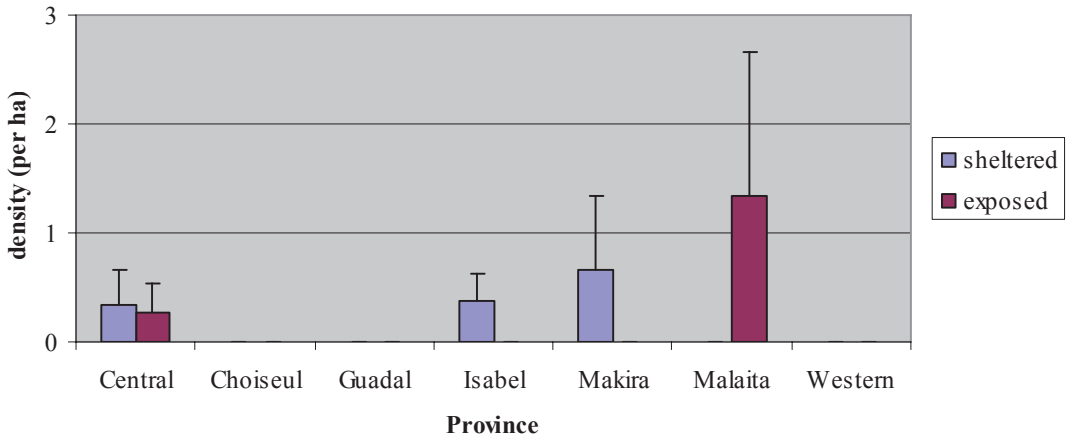


Figure 25. Mean biomass (+ se) of large, vulnerable reef fishes on sheltered and exposed reefs slopes (10m) in the Solomon Islands.

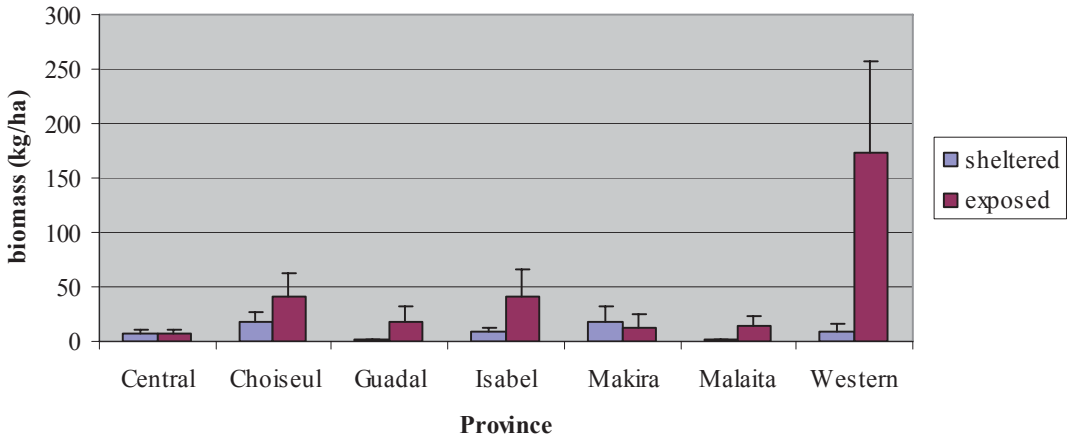


Figure 26. Mean biomass (+ se) of humphead wrasse on sheltered and exposed reef slopes (10m) in the Solomon Islands.

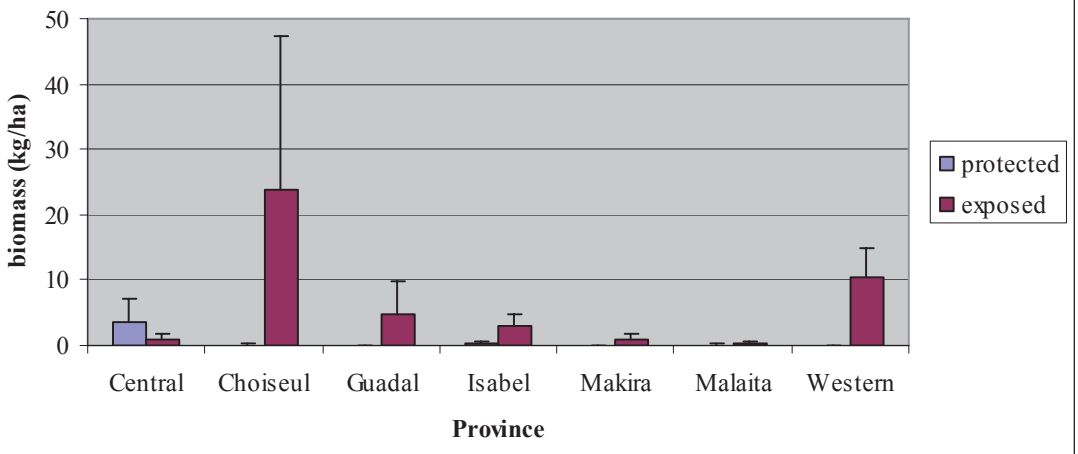


Figure 27. Mean biomass (+ se) of humphead parrotfish on sheltered and exposed reef slopes (10m) in the Solomon Islands.

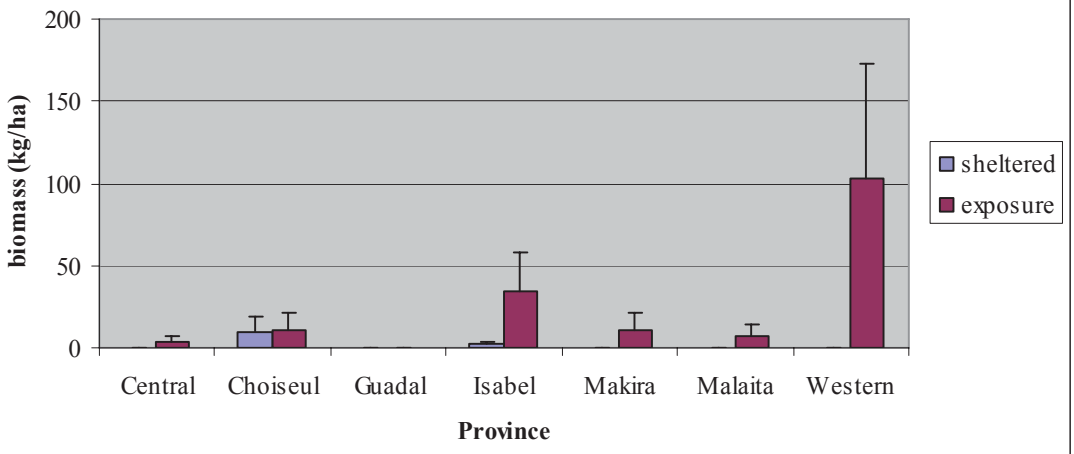


Figure 28. Mean biomass (+ se) of brown-marbled grouper on sheltered and exposed reef slopes (10m) in the Solomon Islands.

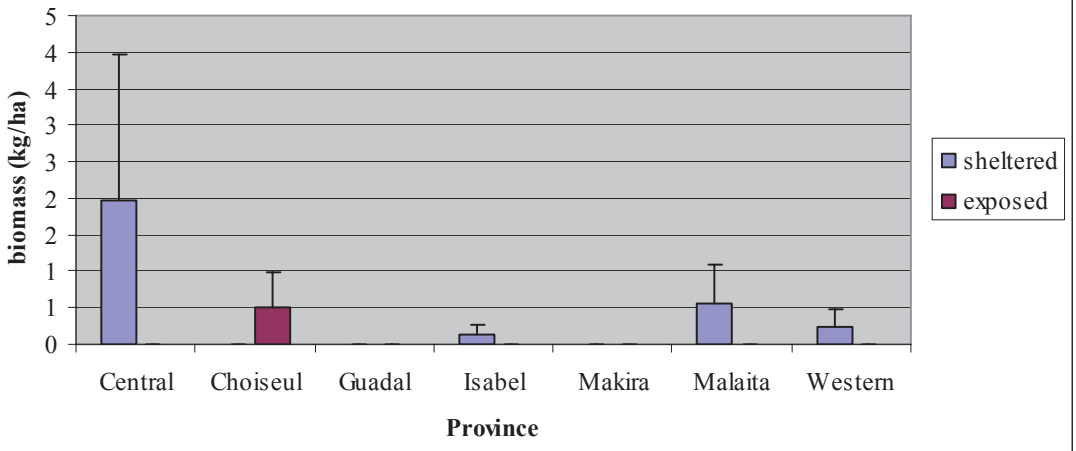
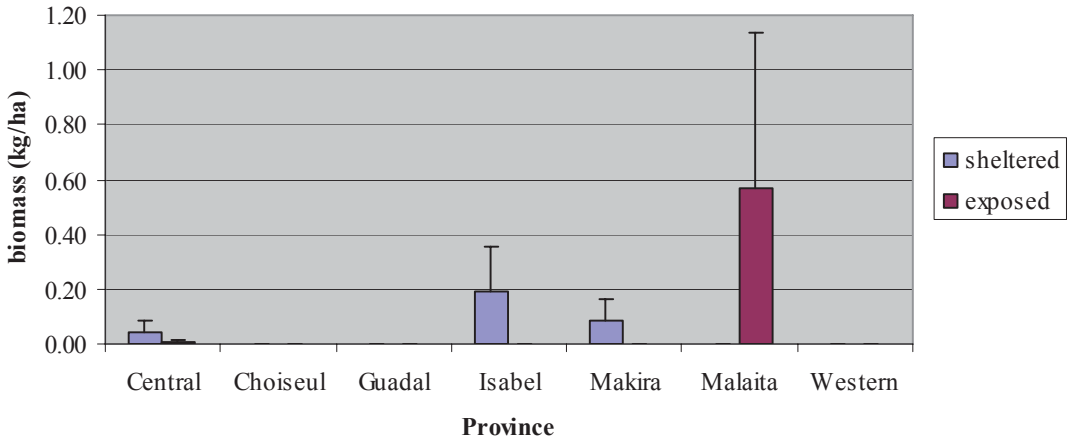


Figure 29. Mean biomass (+ se) of camouflage grouper on sheltered and protected reef slopes (10m) in the Solomon Islands.



KEY FISHERIES SPECIES: AQUARIUM FISHES

Density

Density of aquarium fishes was highly variable among exposure, with no clear pattern apparent (Figure 30). Density was also highly variable among locations (provinces, islands, and sites), with the highest densities recorded in Isabel, Choiseul, Western, Makira, and Central (Russell Islands) Provinces, and with lower densities recorded Guadalcanal, Malaita and Central (Florida Islands) Provinces.

The most abundant families of aquarium fishes were damselfishes, followed by wrasses, surgeonfishes, fairy basslets, butterflyfishes and angelfishes (Table 7). The most abundant species were a wrasse *Cirrhilabrus punctatus*, two species of damselfish (*Chromis ternatensis* and *C. amboinensis*), a surgeonfish (*Acanthurus tuka*), and a fairy basselet (*Pseudanthias tuka*), which each accounted for more than 5% of the total number counted (11%, 11%, 6%, 10% and 10% respectively).

Table 7. Relative densities of aquarium fish families in the Solomon Islands.

Family	Common Name	Relative Density (% of total)
Pomacentridae	Damselfishes	37.52
Labridae	Wrasses	22.13
Acanthuridae	Surgeonfishes	15.44
Serranidae (Anthiinae)	Fairy Basslets	12.57
Chaetodontidae	Butterflyfishes	5.14
Pomacanthidae	Angelfishes	2.93
Balistidae	Triggerfishes	1.69
Haemulidae	Sweetlips	1.17
Cirrhitidae	Hawkfishes	0.39
Scaridae	Parrotfishes	0.13
Serranidae (Epinephelinae)	Groupers	0.08
Tetraodontidae	Puffers	0.06
Monacanthidae	Leatherjackets	0.04

The key target species were much less abundant with anemonefishes accounting for only 0.4% of the total, and two species of angelfish (*Pomacanthus navarchus* and *P. imperator*) accounting for <0.1% each. Two other key target species of the aquarium trade, the blue devil (*Chrysiptera cyanea*) and blue tang (*Paracanthurus hepatus*), were not recorded in this survey, since they tend to occur in other habitat types and depths (Myers 1999).

Most of the variation in density among sites was accounted for by the damselfishes (Appendix 16). For example, the high densities at Isabel (Site 14), Choiseul (Site 18), Three Sisters (Site 49) and New Georgia (Sites 32 and 33) were all due to a high abundance of damselfishes. Fairy basslets, surgeonfishes, triggerfishes and wrasses were also abundant at some sites (Appendix 16: Site 35).

Different patterns of distribution and abundance were apparent when each of the four most abundant families (damselfishes, wrasses, surgeonfishes, and fairy basslets) and three of the main target families (butterflyfishes, angelfishes, and hawkfishes) of aquarium fishes were examined individually (Figures 31-37). The highest density of damselfishes and wrasses were recorded in Isabel, Choiseul, Western, Makira and Central Provinces (Figures 31 and 32, Appendix 16), with only low to moderate densities recorded in Guadalcanal and Malaita Provinces. In contrast, the

highest densities of surgeonfishes were recorded at two sites in Choiseul (Site 21) and Western (Site 27) Provinces, with low to moderate densities recorded elsewhere (Figure 33), while the highest density of fairy basslets was recorded in Western Province, followed by Central, Choiseul and Makira Provinces (Figure 34). No clear pattern of abundance was apparent for three of the main target families of aquarium fish, with a range of abundances recorded in each province (Figures 35-37).

Different patterns were also apparent when some of the target species or species groups were examined individually. For example, anemonefishes were most abundant in Makira, followed by Guadalcanal, Central and Choiseul Provinces (Figure 38). While the blue-girdled angelfish (*Pomacanthus navarchus*) was only recorded in Central, Choiseul, Malaita, Western and Isabel Provinces (Figure 39), and the emperor angelfish (*P. imperator*) was only recorded in Choiseul, Guadalcanal and Isabel Provinces (Figure 40).

Reptiles and Mammals

Density

Only one dugong (Dugongidae, *Dugong dugong*) was observed during the long swim surveys in the Solomon Islands. It was observed at Site 59 on the island of Malaita, and was estimated to be 250cm in length.

Eleven sea turtles were observed during the survey – four hawksbills, one green, and six unidentified individuals (Table 8). Three turtles were observed in each of Isabel and Choiseul Provinces, two in Central Province, and one in each of Western, Malaita and Guadalcanal Provinces. No crocodiles or cetaceans were recorded during the long swims.

Table 8. Sea turtles observed on long swim surveys in the Solomon Islands.

Province	Site	Species	Size*	N
Isabel	Isabel (Site 13)	Unidentified	45	1
Isabel	Arnavon Islands (Site 15)	Unidentified	60	1
Isabel	Arnavon Islands (Site 15)	Unidentified	65	1
Choiseul	Choiseul (Site 22)	Unidentified	35	1
Choiseul	Choiseul (Site 24)	Unidentified	60	1
Choiseul	Choiseul (Site 24)	Unidentified	65	1
Western	New Georgia (Site 33)	Hawksbill (*Eretmochelys imbricata*)	50	1
Central	Russell Islands (Site 41)	Hawksbill (*Eretmochelys imbricata*)	40	1
Central	Savo Island (Site 64)	Hawksbill (*Eretmochelys imbricata*)	100	1
Malaita	Malaita (Site 53)	Green (*Chelonia mydas*)	60	1
Guadalcanal	Guadalcanal (Site 65)	Hawksbill (*Eretmochelys imbricata*)	100	1

*Carapace length in cm.

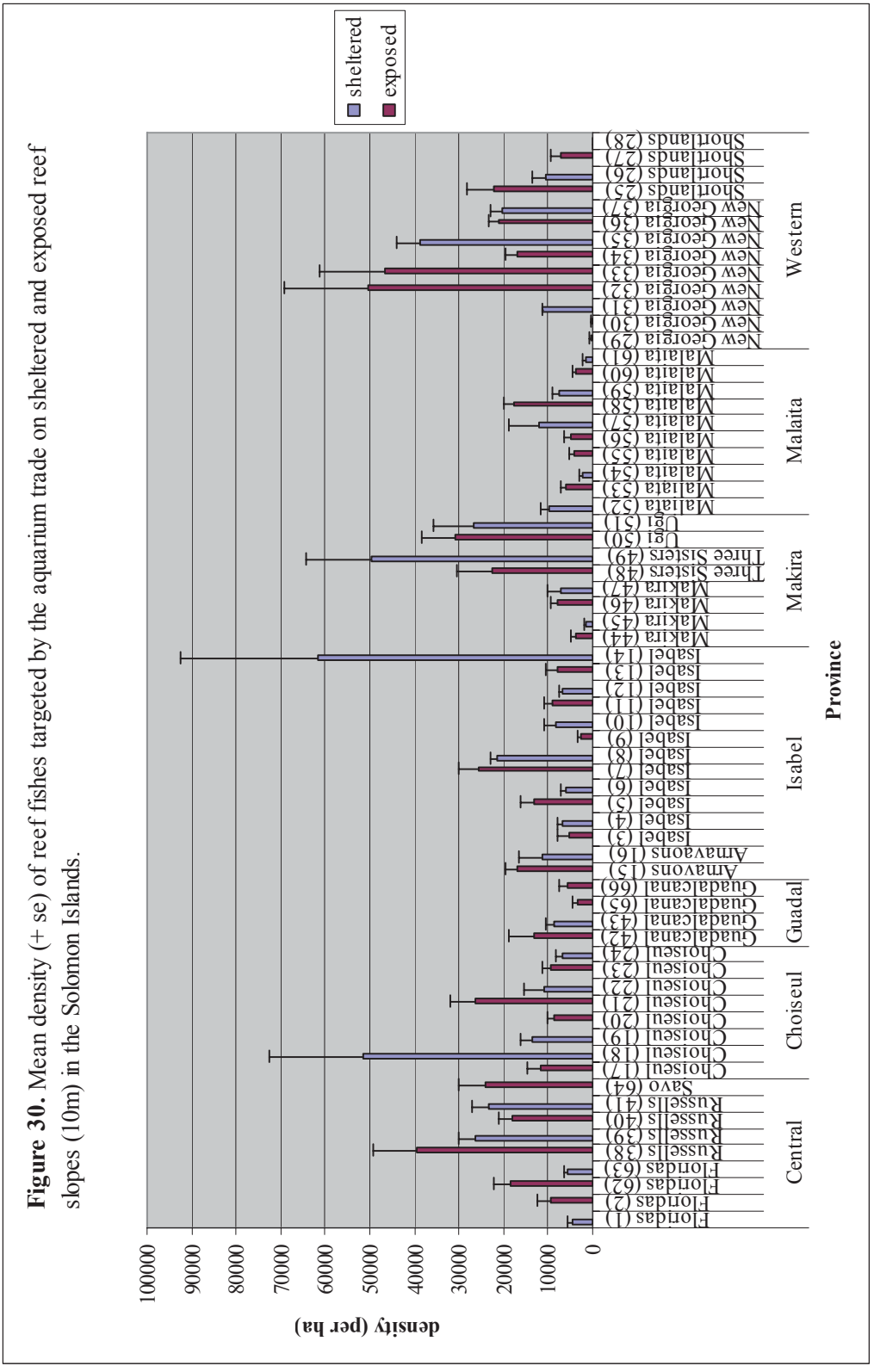


Figure 30. Mean density (+ se) of reef fishes targeted by the aquarium trade on sheltered and exposed reef slopes (10m) in the Solomon Islands.

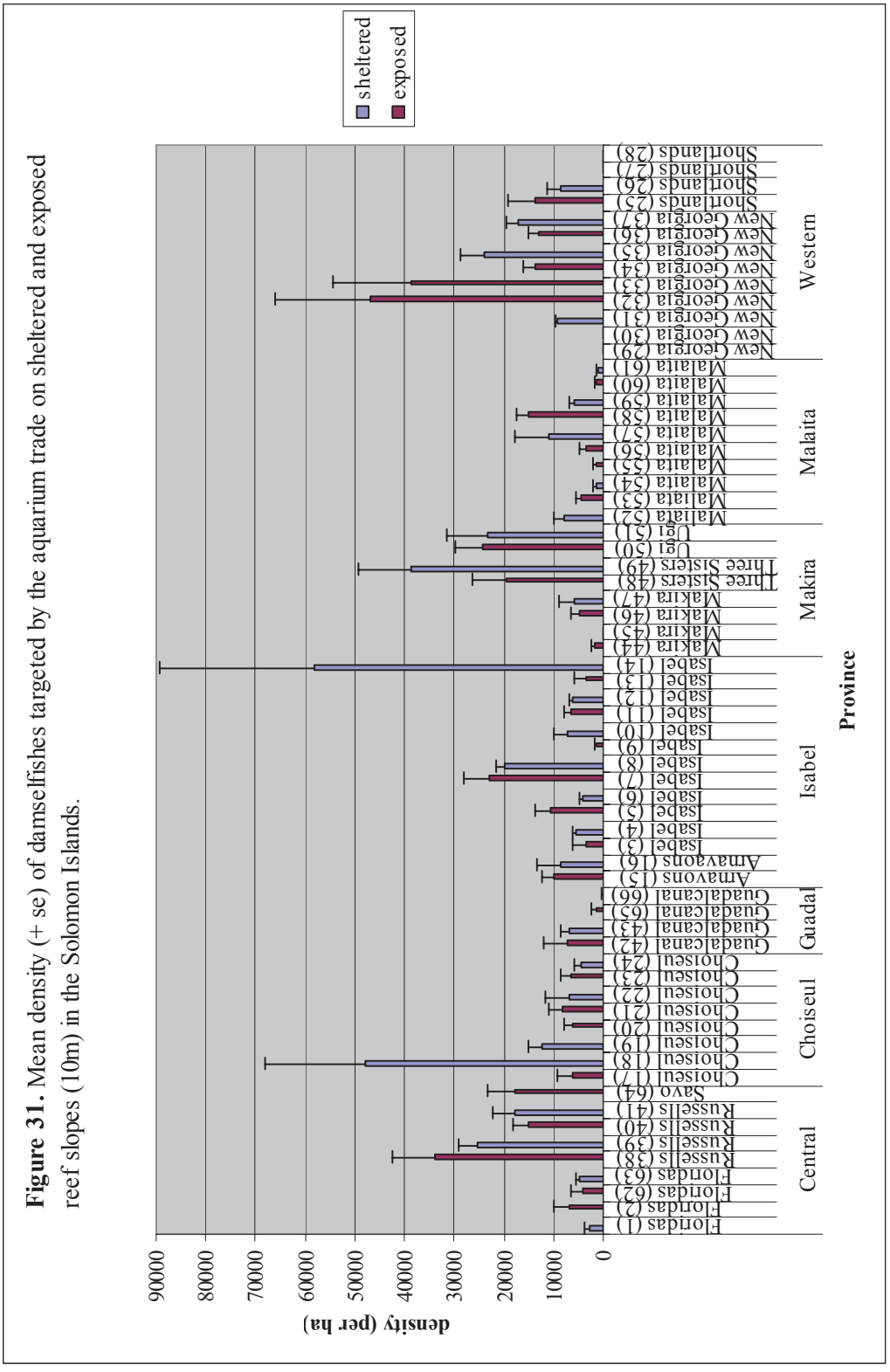


Figure 31. Mean density (+ se) of damselfishes targeted by the aquarium trade on sheltered and exposed reef slopes (10m) in the Solomon Islands.

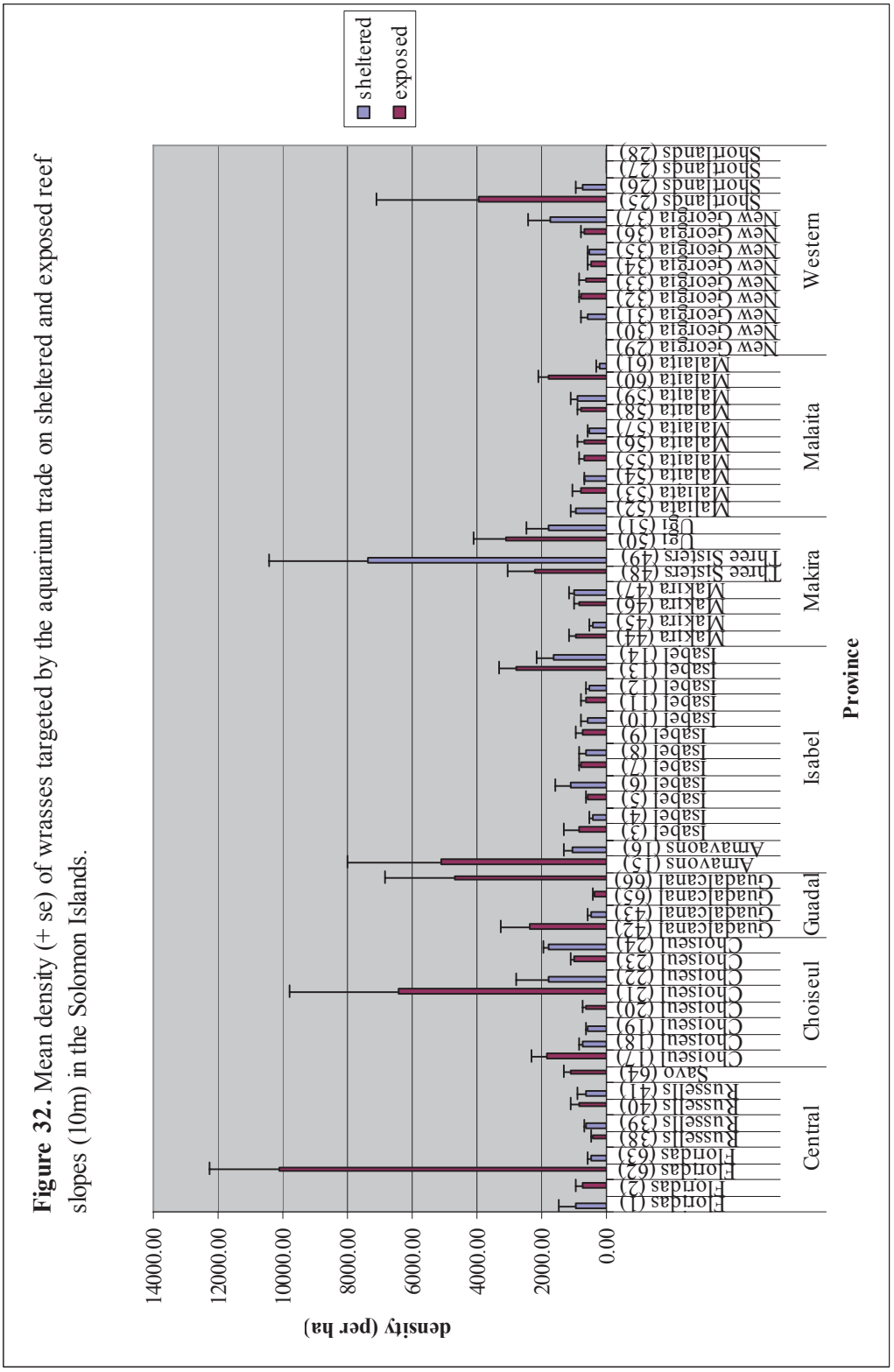


Figure 32. Mean density (+ se) of wrasses targeted by the aquarium trade on sheltered and exposed reef slopes (10m) in the Solomon Islands.

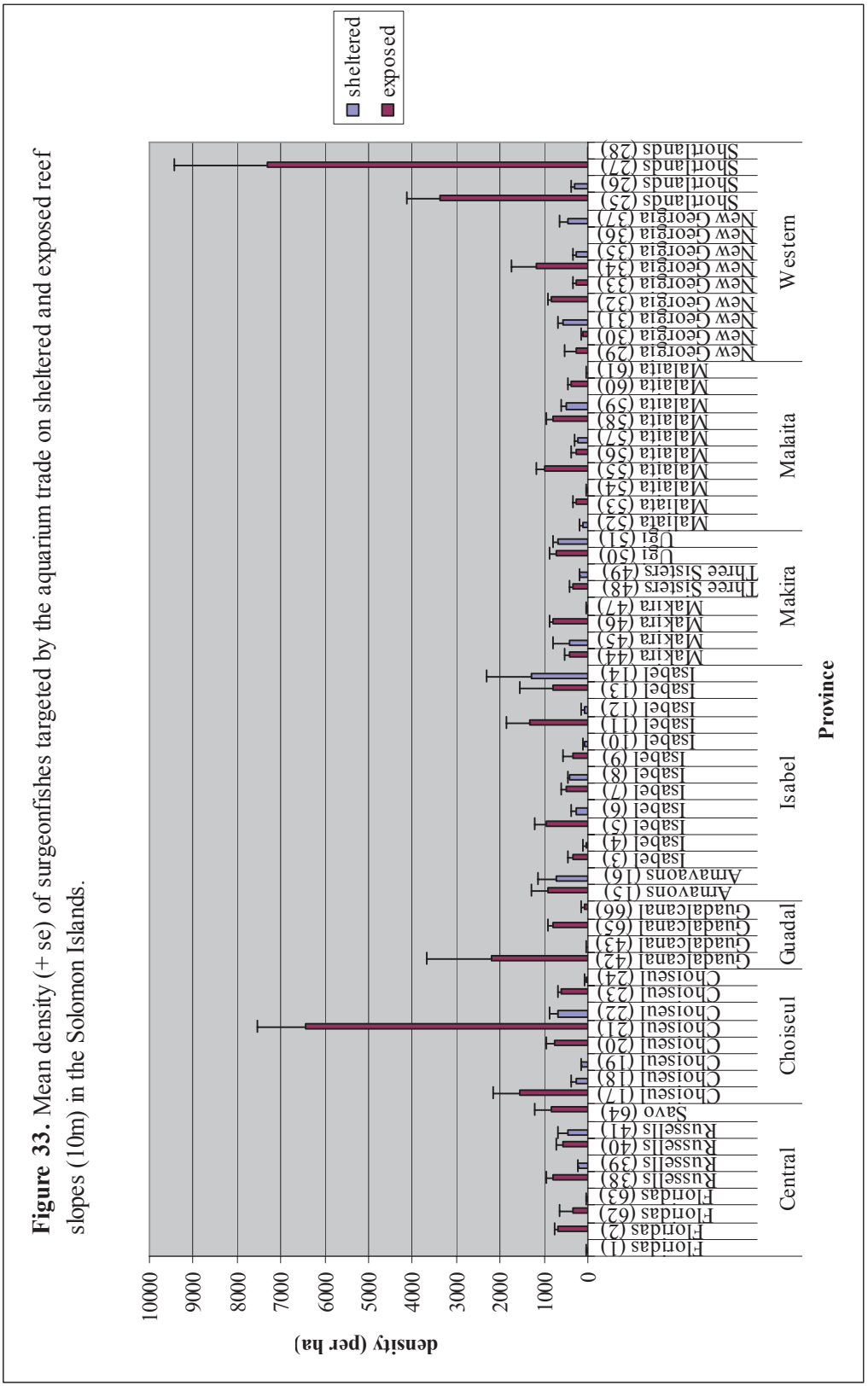


Figure 33. Mean density (+ se) of surgeonfishes targeted by the aquarium trade on sheltered and exposed reef slopes (10m) in the Solomon Islands.

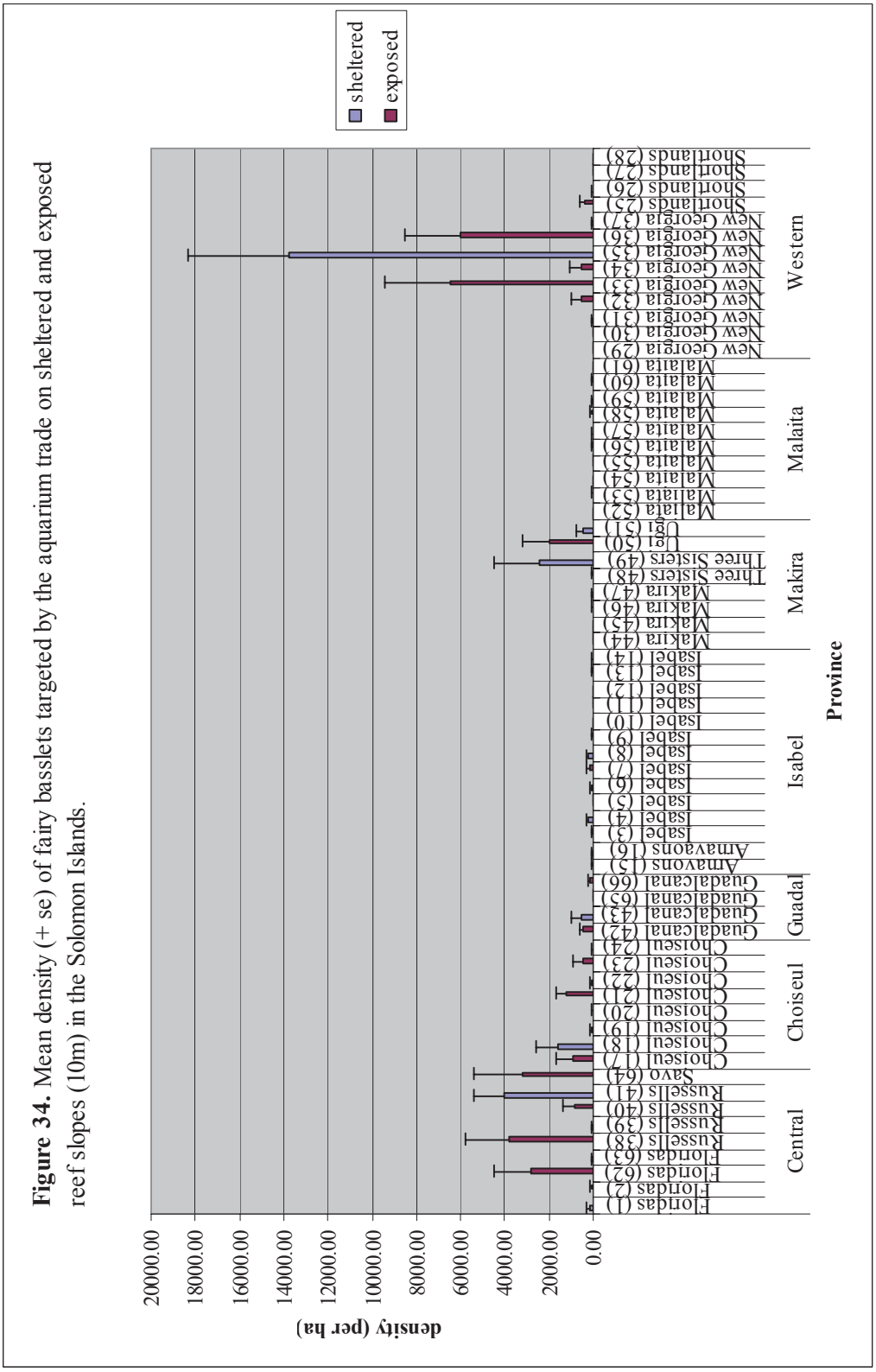


Figure 34. Mean density (+ se) of fairy basslets targeted by the aquarium trade on sheltered and exposed reef slopes (10m) in the Solomon Islands.

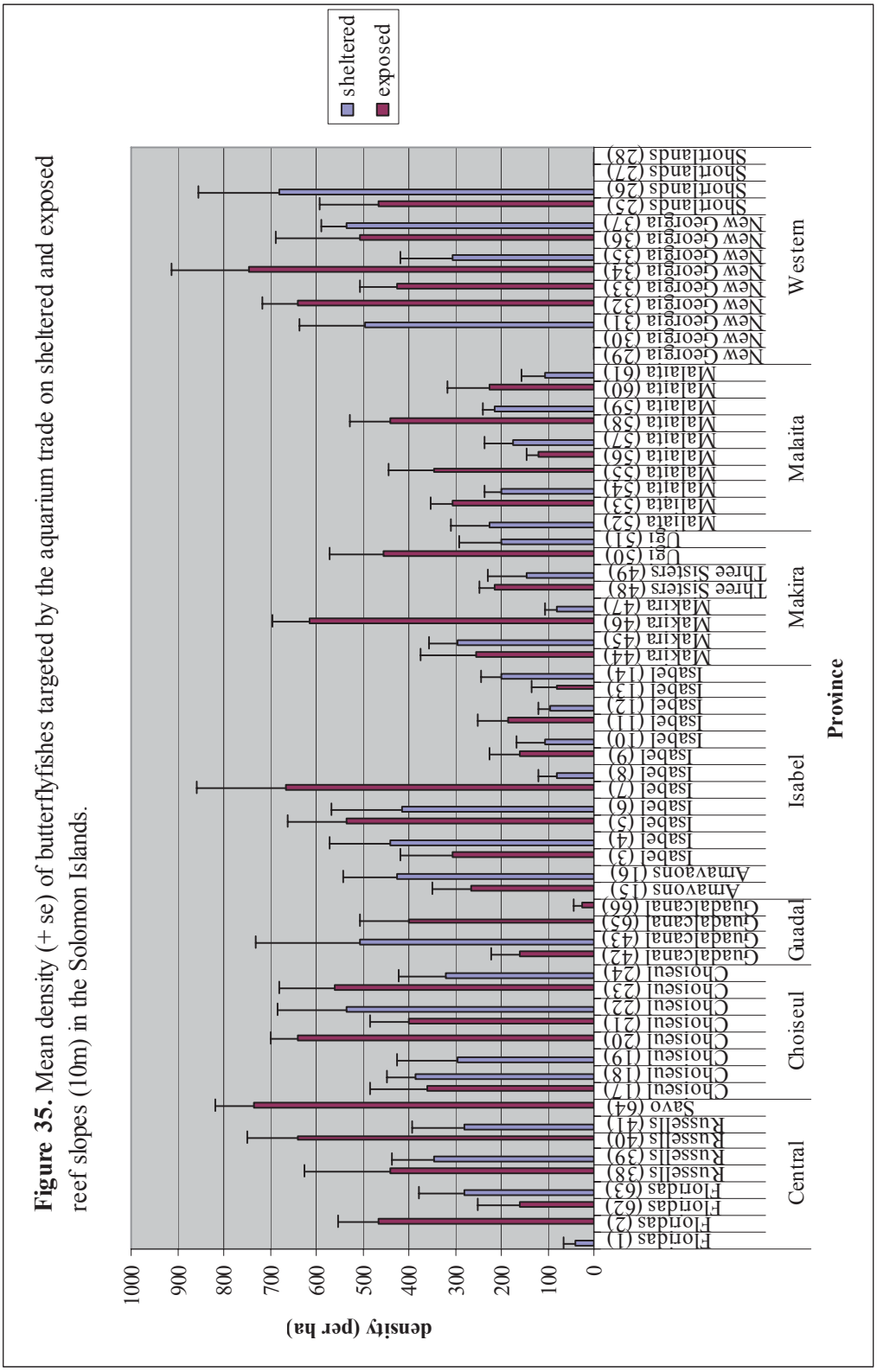


Figure 35. Mean density (+ se) of butterflyfishes targeted by the aquarium trade on sheltered and exposed reef slopes (10m) in the Solomon Islands.

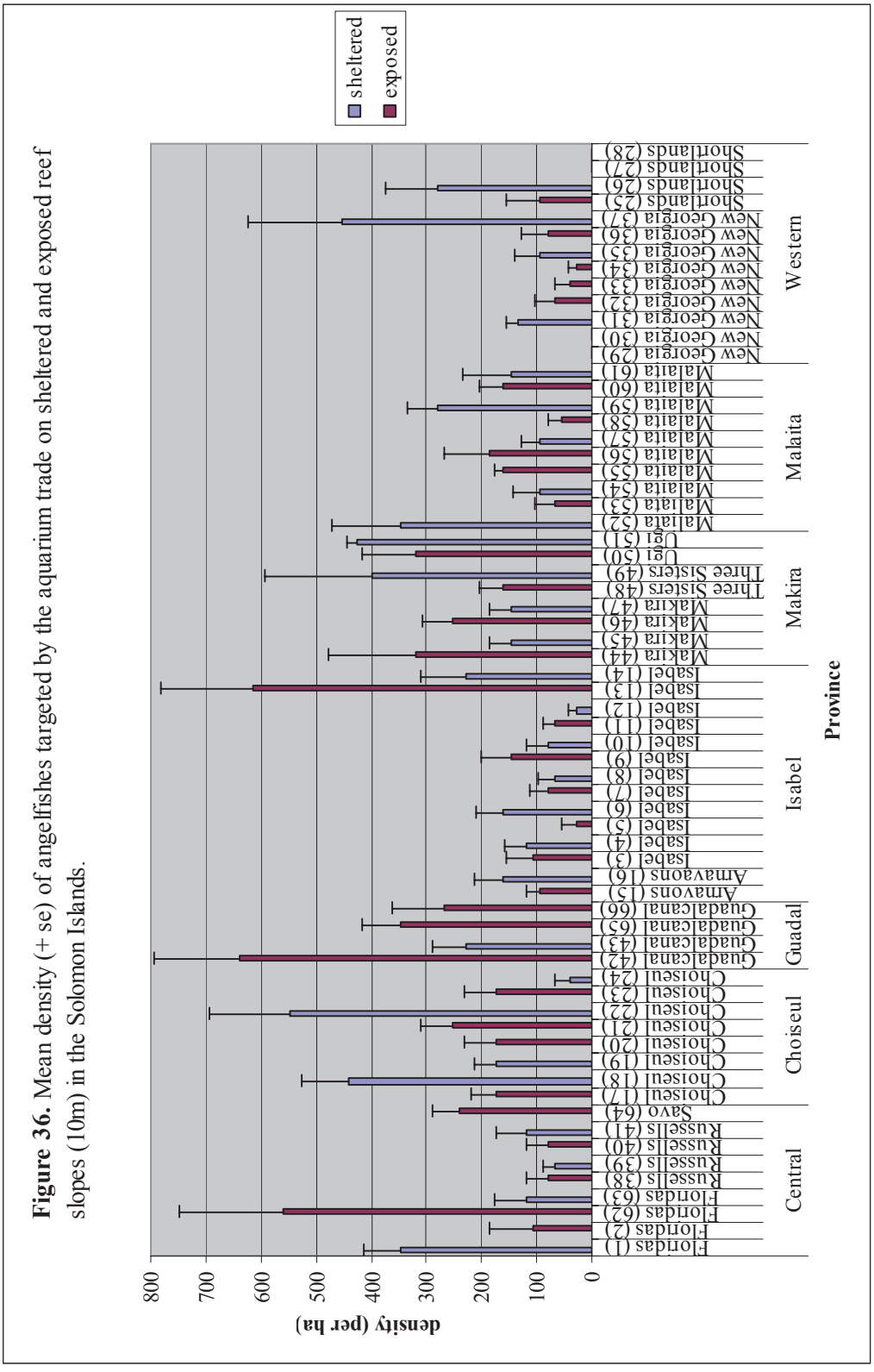


Figure 36. Mean density (+ se) of angelfishes targeted by the aquarium trade on sheltered and exposed reef slopes (10m) in the Solomon Islands.

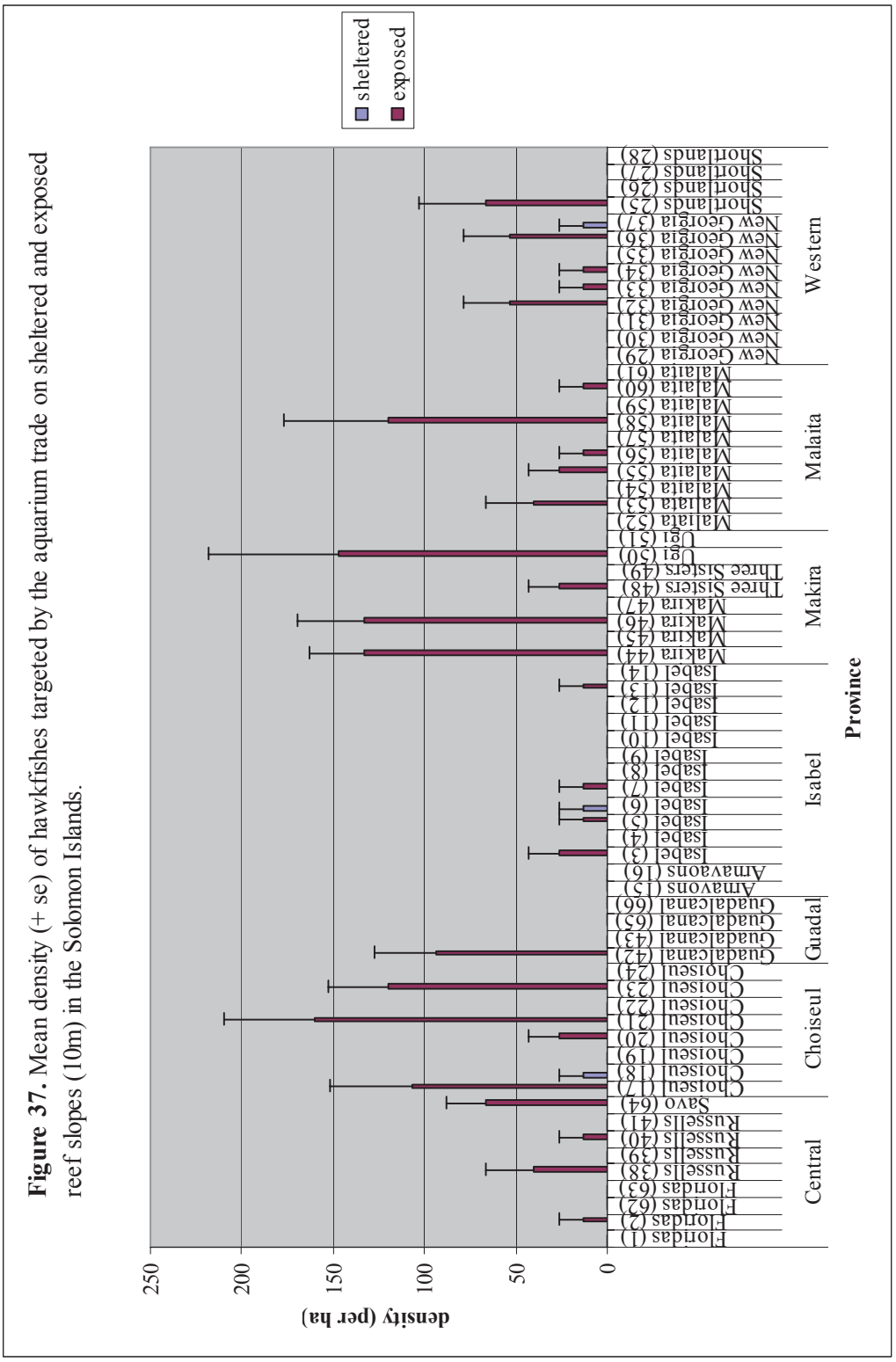


Figure 37. Mean density (+ se) of hawkfishes targeted by the aquarium trade on sheltered and exposed reef slopes (10m) in the Solomon Islands.

Figure 38. Mean density (+ se) of anenomefishes targeted by the aquarium trade on sheltered and exposed reef slopes (10m) in the Solomon Islands.

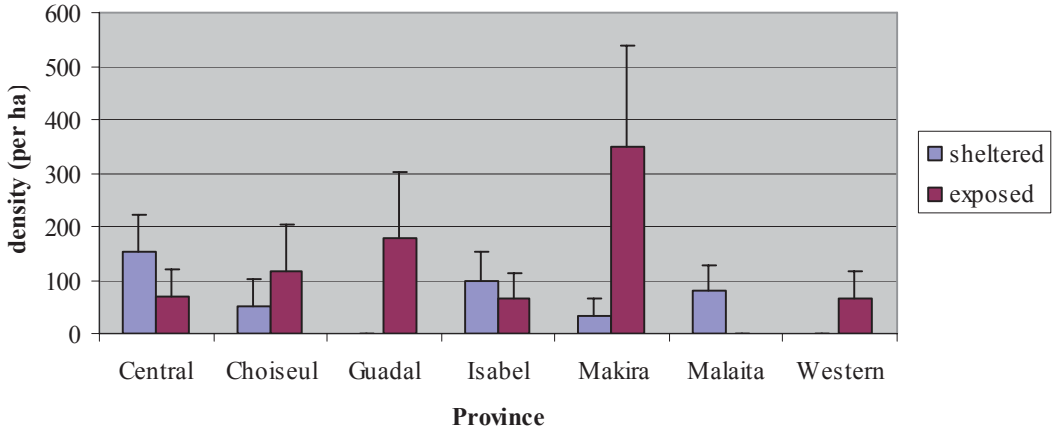


Figure 39. Mean density (+ se) of the blue-girdled angelfish targeted by the aquarium trade on sheltered and exposed reef slopes (10m) in the Solomon Islands.

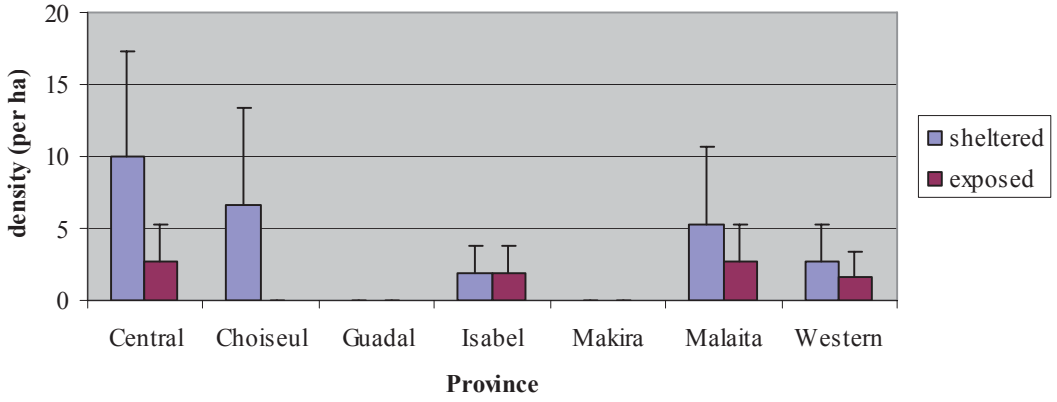
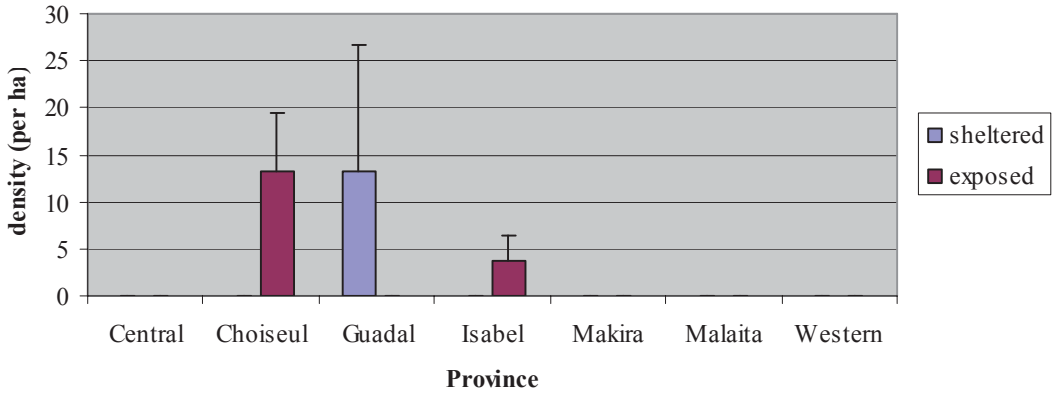


Figure 40. Mean density (+ se) of the emperor angelfish targeted by the aquarium trade on sheltered and exposed reef slopes (10m) in the Solomon Islands.



Discussion

This survey represents the first broad scale, quantitative survey of coral reef fish communities and fisheries resources conducted in the Solomon Islands. The results will contribute to our understanding of the status of reef fish resources, which provide an important resource for the people of the Solomon Islands.

The results suggest that overfishing of reef fish populations may be occurring in some provinces, particularly in Guadalcanal, Malaita and Central (Florida Islands) Provinces. Given the rapidly rising population in the Solomon Islands, this problem may become more serious and widespread in future. These results will help provide a scientific basis for the National Government to review the status of key fisheries species (food and aquarium fishes), and for reassessing management arrangements for these fisheries.

The following is a summary of the results of the survey, and management recommendations for the future.

Coral Reef Fish Communities

A total of 37 families and 383 species were counted during this survey. Since this study focused on one habitat only (reef slopes at 10m), and did not include nocturnal and cryptic species that are not amenable to visual census techniques, the survey included 45% and 38% of the total number of families and species recorded in the Solomon Islands respectively, and 49% of the species observed during the Solomon Islands Marine Assessment (82 families and 1019 species have been recorded for the Solomon Islands, of which 786 species were observed this survey: see *Coral Reef Fish Diversity* this report). The most abundant families were damselfishes, fusiliers, surgeonfishes, snappers and wrasses, followed by fairy basslets, parrotfishes and emperors.

There was a high degree in variability among coral reef fish communities both within and among provinces. In general, the coral reef fish communities were in good condition (in terms of fish species richness, density and biomass) throughout most of the Solomon Islands, with those in the Central (Russell Islands and Savo Island), Choiseul, Isabel (particularly the Arnavon Islands), Makira (particularly the offshore islands of Three Sisters and Ugi), and Western Provinces (both New Georgia and the Shortland Islands), tending to be in better condition than those in Guadalcanal, Malaita and Central (Florida Islands) Provinces (Table 9). Similar patterns on the status of coral reef communities were recorded for other key components of these habitats (see *Coral Communities and Reef Health* this report, and *Benthic Communities* this report).

The reasons for the varying status of coral reef fish communities throughout the Solomon Islands cannot be determined with certainty, due to the lack of previous surveys for the area. However, the variation at the site level (within provinces and islands), is most likely due to the variation in the coral reef habitat at each site, which is quite variable and ranges from low to high on most islands or island groups (see *Coral Communities and Reef Health* this report, and *Benthic Communities* this report). Some of the variation among provinces is also likely to be due to the impact of human activities, particularly fishing, on reef fish populations (see below).

Table 9. Species richness, density and biomass of coral reef fish communities in each major island or island group surveyed

Province	Island or Island Group	Species Richness (per transect)	Density (per ha)	Biomass (kg/ha)
Central	Russell Islands	High	Medium-High	Low-Medium
	Florida Islands	Medium	Low-High	Low
	Savo Island	High	High	Low
Choiseul	Choiseul	Medium-High	Medium-High	Low-Medium
Guadalcanal	Guadalcanal	Low-Medium	Low-Medium	Low
Isabel	Isabel	Medium-High	Low-High	Low-Medium
	Arnavon Islands	High	Medium-High	Low-Medium
Makira	Makira	Medium-High	Low-Medium	Low-Medium
	Three Sisters Islands	High	Medium-High	Low
	Ugi Island	High	Medium-High	Low
Malaita	Malaita	Low-Medium	Low-Medium	Low-High
Western*	New Georgia	Medium-High	Medium-High	Low-Medium
	Shortland Islands	Medium-High	Medium	Low-High

Where: High, medium and low species richness equal >40, 20-40, and <20 species respectively; high, medium and low densities equal >60,000, 20-60,000, and <20,000 per ha respectively; and high, medium and low biomass equal >15,000, 5-15,000, and<5000 kg/ha respectively. *Sites were excluded where no surveys were conducted for small or medium sized fishes.

KEY FISHERIES SPECIES: FOOD FISHES

Richards *et al*. (1994) reported 180 species from 30 families being taken by local fishermen in the domestic reef fish fisheries. In this study, we focused on 109 species or species groups targeted by fisheries in the Solomon Islands (67 and 42 for food and aquarium fisheries respectively). Healthy populations of bony food fishes (medium to high density and low-medium biomass) were encountered in some locations in Central (Russell Islands), Choiseul, Isabel (particularly the Arnavon Islands), Makira (Makira Island), and Western Provinces. In contrast, healthy populations of food fishes were not observed in Central (Florida Islands and Savo Islands), Guadalcanal, Makira (Three Sisters Islands and Ugi Island) or Malaita Provinces, where density and biomass were always low (Table 10) despite the healthy coral reef communities recorded at some of those locations (Table 9, see also *Coral Communities and Reef Health* this report, *Benthic Communities* this report).

Similar patterns were recorded for four of the five major food fish families (snappers, surgeonfishes, emperors and parrotfishes). This pattern was most pronounced for key fisheries species of parrotfishes (including the humphead parrotfish), which were not observed on Guadalcanal. The other major food fish family (groupers), was uncommon throughout the survey area, with the highest densities recorded in the Arnavon Community Marine Conservation Area. The most abundant genera of food fishes were snappers (*Lutjanus* and *Macolor*s), surgeonfishes (*Acanthurus*, *Ctenochaetus* and *Naso*), emperors (*Lethrinus* and *Monotaxis*), parrotfishes (*Hipposcarus*), and fusiliers (*Caesio*).

The reasons for the varying status of food fish populations throughout the Solomon Islands cannot be determined with certainty, because of the lack of previous surveys and historical catch data for the study area. However, the variation at the site level (within provinces and islands), is most likely due to the variation in the coral reef habitat at each site, which is quite variable and ranges from low to high on most islands or island groups (see *Coral Communities and Reef Health* this report, *Benthic Communities* this report).

In contrast, the variation in food fish populations among provinces or major islands or island groups, may be due to a combined effect of the variation in coral reef habitat and the impact of human activities, particularly fishing. This is likely because the healthiest populations of food fishes (with medium to high densities and biomass) were observed in areas with small human populations, while those in worse condition (where only low densities and biomass were recorded) were located in or close to the most heavily populated areas in Guadalcanal and Malaita, including areas where the coral reef communities were otherwise healthy such as Marau Sound on Guadalcanal, the Three Sisters Islands and Ugi Island in Makira Province, and Savo Island in Central Province. The healthy condition of the food fish populations at one site on northwest side of Makira may be due in part to the protection afforded by the weather conditions on the exposed coastline.

A high human population implies high fishing pressure on reef fish stocks and other marine resources. Two provinces, Guadalcanal and Malaita, host the two largest populated urban centers in the Solomon Islands - Honiara and Auki respectively. The demand for reef fish in these areas is high and expected to increase as these urban areas grow. Unlike other provinces such as the Western, Isabel or Choiseul, which have large extensive coral reef systems and therefore larger unit areas of coral reef per number of people, both Malaita (excluding Ontong Java) and Guadalcanal have less extensive reef systems or small reef area per number of people. With the present high population levels of these provinces, the level of fishing pressure on reef fish stocks and other marine resources may already be too high, particularly in places like Langa Langa and Lau Lagoons on Malaita, and Marau Sound on Guadalcanal.

While it is easy to monitor the amount of catch that goes through provincial fisheries centres and marine product buyers in urban areas like Honiara, Auki or Gizo, the largest portion goes unmonitored through public fish markets in urban areas and private sales. For example, there is no information on how much reef fish is going through the Honiara public fish market every year, although it is known that catches from nearby areas like the Florida Islands and Marau Sound make up a large proportion of the sales (*P. Ramohia* pers. obs.). Furthermore, a great volume of fish is consumed by fishers for subsistence purposes and never enters a market. During this survey, low densities and biomass have been recorded for reef food fishes in the Florida Islands, Marau Sound and other locations close to these urban areas, but whether this is due to high fishing effort to meet the high fish demand in Honiara or not is unknown due to a lack of baseline information for these areas. Appropriate steps need to be taken by the DFMR and Honiara City Council to monitor this situation in future.

Table 10. Density and biomass of bony food fishes in each province and major island or island group surveyed.

Province	Island or Island Group	Density (per ha)	Biomass (kg/ha)
Central	Russell Islands	Low-High	Low-High
	Florida Islands	Low	Low
	Savo Island	Low	Low
Choiseul	Choiseul	Low-High	Low-Medium
Guadalcanal	Guadalcanal	Low	Low
Isabel	Isabel	Low-High	Low-Medium
	Arnavon Islands	Medium-High	Low-High
Makira	Makira	Low-Medium	Low-High
	Three Sisters Islands	Low	Low
	Ugi Island	Low	Low
Malaita	Malaita	Low	Low
Western*	New Georgia	Medium-High	Low-High
	Shortland Islands	Medium-High	Low-High

Where: High, medium and low densities equal >15,000, 5-15,000, and <15,000 per ha respectively; and high, medium and low biomass equal >5,000, 2-5,000, and<2,000 kg/ha respectively. *Sites were excluded where no surveys were conducted for small or medium sized fishes.

KEY FISHERIES SPECIES: LARGE AND VULNERABLE REEF FISHES

The highest densities and biomass of large bony reef fishes (>30cm) were recorded in Western, Isabel, Makira, Central and Choiseul Provinces, with less recorded in Guadalcanal or Malaita Province. The high densities and biomass recorded in some provinces were due to high densities of snappers, emperors, parrotfishes, drummers and emperor at some sites.

Large and vulnerable reef fish species, particularly those targeted by the live reef food fish trade (LRFFT: humphead wrasse, humphead parrotfish, and large groupers) were uncommon or rare throughout the survey area. Humphead wrasses and humphead parrotfishes were uncommon throughout the survey area, with the highest densities and biomass recorded in Choiseul and Western Provinces. Large groupers (brown-marbled grouper, camouflage grouper and squaretail coral grouper) were rare throughout the survey area, as were barramundi cod, giant trevally, sharks and rays. Large and vulnerable emperor species were most abundant in Makira, Choiseul, and Isabel Provinces.

The low densities and biomass of large reef fishes in some locations is of major concern, since they are particularly vulnerable to overfishing. Species targeted by the LRFFT form spawning aggregation at specific locations, which are particularly vulnerable to overfishing if their location is known and unprotected. In the past, known spawning aggregations have been targeted by the LRFFT in some parts of the country such as Marovo Lagoon, Roviana Lagoon and Ontong Java. The adverse effect of this fishing practice has now been recognised, and a Management Plan has been developed (but not yet implemented) by the DFMR, with the aim of managing this fishery for conservation and long term sustainable production. Because the LRFFT activities were more or less localised at these locations and ceased some years prior to this survey, it is difficult to say whether the low densities and biomass recorded for these species in the study area is related to past fishing activities or other factors. However, the higher density and biomass recorded in the ACMCA for some grouper species could be attributed to the effect of more than 10 years of protection. Protecting spawning aggregations of key target species is crucial to the long term sustainability of these species, and important spawning aggregation sites should be identified and

protected through relevant national or provincial laws, and reinforced at the local community level.

Target species like parrotfishes and surgeonfishes, including large and vulnerable species such as the humphead parrotfish, humphead wrasse or large groupers, are also extremely vulnerable to night spear fishing (Hamilton 2003, Hamilton *et al*., 2005) and gill netting. These species are good indicators of high fishing pressure and the fact that some species are absent or only present in low densities or biomass in some areas suggests that these stocks may have been overexploited. Though the true extent of their use in the country is unknown, gill netting and night spear fishing are very popular in the Solomon Islands, and it will be difficult to control the use of these methods without intervention at the national or provincial levels and cooperation at the local community level.

Key Fisheries Species: Aquarium Fishes

Healthy populations of aquarium fishes (medium to high densities) were encountered in some locations in this study, particularly in Central (Russell Islands and Savo Island), Choiseul, Isabel, Makira (particularly Three Sisters Islands and Ugi Island), and Western Provinces (New Georgia and Shortland Islands: Table 11). In contrast, only low densities of aquarium populations of aquarium fishes were encountered in Guadalcanal and Malaita Provinces, and some locations in Central (Florida Islands), Makira (Makira Island) and Isabel (Arnavon Islands) Provinces.

The most abundant families were damselfishes, wrasses, surgeonfishes and fairy basslets, which accounted for most of the variation among sites, while other target families (butterflyfishes, angelfishes and hawkfishes) were less abundant. Key target species such as anemonefishes, blue-girdled angelfish, and emperor angelfish, were uncommon or rare throughout the survey area. However, two other key target species, the blue devil and blue tang, were not included in this survey, since they tend to occur in habitat types and depths not included in the study (see Myers 1999).

Harvesting of aquarium species for the Aquarium Trade started in the Solomon Islands in 1996 (Kinch, 2004a). The Florida Islands, Marau Sound and Rarumana (Kinch 2004a,b) are the main collection sites for this Trade, and this survey confirmed that the densities of aquarium fishes are low in these areas. Whether this is a natural situation or due to overexploitation is not clear since there is no baseline data for these areas. However, overexploitation of aquarium fishes (particularly key target species) should be of concern, particularly in locations close to urban areas in Guadalcanal and Malaita. This may be even more important in future if the demand for aquarium species increases.

Table 11. Density of aquarium fish species in each province and major island or island group surveyed.

Province	Island or Island Group	Density (per ha)
Central	Russell Islands	Low-Medium
	Florida Islands	Low
	Savo Island	Medium
Choiseul	Choiseul	Low-High
Guadalcanal	Guadalcanal	Low
Isabel	Isabel	Low-Medium
	Arnavon Islands	Low
Makira	Makira	Low
	Three Sisters Islands	Medium-High
	Ugi Island	Medium
Malaita	Malaita	Low
Western*	New Georgia	Low-High
	Shortland Islands	Medium

Where: High, medium and low densities equal >40,000, 20-40,000, and <20,000 per ha respectively. *Sites were excluded where no surveys were conducted for small or medium sized fishes.

Reptiles and Mammals

Only one dugong was observed during the underwater survey of the Solomon Islands, which was in the vicinity of the extensive seagrass beds recorded on the northeastern side of Malaita. Eleven sea turtles were also observed in four provinces: three in Isabel Province (two at the Arnavon Islands), two at the northern end of Choiseul, one in New Georgia, two in Central Province (Russell Islands and Savo Island), and one each on Malaita and Guadalcanal. More detailed information regarding the distribution of dugong and sea turtles and their habitat is provided in *Seagrasses and Mangroves* (this report). No crocodiles or cetaceans were observed underwater. More detailed information on cetaceans in the Solomon Islands is provided in *Oceanic Cetaceans and Associated Habitats* (this report).

Conservation and Management Recommendations

Because of the importance of coral reef fish resources to the livelihood of the Solomon Island people, as well as threats posed to these resources as result of their increased exploitation in future, it is very important that exploited coral reef fish resources are managed to ensure their long term sustainability. As the country's population increases, the reliance on reef fish resources is also expected to increase. In light of this inevitable scenario, the government is strongly urged to undertake appropriate measures to safeguard these important coral reef fish resources. This study has helped provide a scientific basis for the National Government to reassess the status of these resources, and the management arrangements for these fisheries.

At present, two of the most destructive fishing methods to the reef fish resources (and other marine resources like marine turtles) in the Solomon Islands are the use of gillnets and night spear fishing. These methods can be compared with the highly efficient and destructive use of SCUBA or hookah gear for harvesting sea cucumbers (see *Fisheries Resources: Commercially Important Macroinvertebrates* this report). There is widespread use of these fishing methods in the Solomon Islands, and it will be very difficult to control their use without appropriate Fisheries Regulations, although it is acknowledge that historically effective enforcement of Fisheries regulations has been difficult in the Solomon Islands.

Evidence of blast fishing was also noted in Langa Langa Lagoon on Malaita and in the Florida Islands during this survey. Blast fishing is very destructive, because it is a highly effective method for harvesting reef fishes and it damages the coral reef habitat. This method is prohibited in the Solomon Islands by the Fisheries Act 1998. However, enforcement of Fisheries Regulations is difficult, due to the large area and lack of manpower and resources at both the National and Provincial levels. For that reason, education and awareness programs may be more effective at addressing this problem.

Effective management of coral reef fish fisheries will not only ensure the long term sustainability of these resources for the people of the Solomon Islands, it will also allow the country to better appreciate the full potential and benefits that these fisheries can provide in the long term. Human activities affect the density and biomass of coral reef fishes and their habitat. Habitat features may in turn affect abundance of key fisheries species. Therefore, ensuring the long term sustainability of these habitats and associated resources should be one of our primary responsibilities.

Based on these considerations, and the results of this study, we recommend that the National Government seriously consider taking appropriate action to:

1. Ban the use of highly efficient and destructive fishing methods, particularly gillnets and night spear fishing;
2. Undertake a nationwide education and awareness program to help fishermen understand the importance of conservation and management of fisheries resources, and the important habitats these resources depend on for their well being;
3. Implement a vigorous education and awareness program on blast fishing targeted towards ensuring that young people understand the effect of these methods on marine resources and their habitats, and that this activity is prohibited and penalties apply for breaching this law;
4. Recruit more enforcement officers to work closely with other law enforcement agencies (eg Police, Customs and Immigration) and rural fishing communities to monitor and enforce fisheries laws and regulations;
5. Facilitate and support the establishment of Marine Protected Areas to protect key fisheries species (food and aquarium fishes);
6. Protect large and vulnerable fish species (humphead wrasse and large groupers) through the protection of fish spawning aggregation sites, and the implementation of the National Management and Development Plan for the Live Reef Food Fish Fishery;
7. Develop Management and Development Plans for other food fishes and the Aquarium Industry;
8. Speed-up the appointment and establishment of the Fishery Advisory Council as provided for under the Fisheries Act 1998, to ensure proper Fisheries Management and Development Plans are implemented; and
9. Develop alternative offshore fisheries such as raft fishing for tuna, squid fishing and deep water snapper fishing to ease fishing pressure on the inshore resources.

This survey has also provided the basis for the long term monitoring of reef fish resources. However, information on the levels of subsistence use is still lacking. To gain a better appreciation of the status of reef fin-fish fishery in the country, information on subsistence harvest is required. Therefore, we recommend that the government and other stakeholders like non-governmental organizations and local communities should work together to come up with ways of monitoring reef fish resources and their use in subsistence and artisanal fisheries in the Solomon Islands.

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Appendix 1. Families and species recorded in the survey of coral reef resources in the Solomon Islands, and constants used to convert size (length) to biomass (based on Kulbicki *unpubl. data*)

Family	Genus and Species	biomass constant a	biomass constant b
ACANTHURIDAE	*Acanthurus blochii*	0.280526155	3.106776812
	Acanthurus fowleri	0.294117647	3.039513678
	Acanthurus lineatus	0.294117647	3.039513678
	Acanthurus mata	0.28217182	3.007953028
	Acanthurus nigricans	0.338180588	2.865329513
	Acanthurus nigricauda	0.294117647	3.039513678
	Acanthurus nigrofuscus	0.300687673	3.029210679
	Acanthurus nubilis	0.282485876	3.012048193
	Acanthurus olivaceus	0.294117647	3.039513678
	Acanthurus pyroferus	0.294117647	3.039513678
	Acanthurus thompsoni	0.294811321	3.034901366
	Acanthurus xanthopterus	0.234991117	3.266404701
	Acanthurus spp.	0.294117647	3.039513678
	Ctenochaetus binotatus	0.289855072	3.105590062
	Ctenochaetus cyanocheilus	0.297619048	3.039513678
	Ctenochaetus striatus	0.296785222	3.031745406
	Ctenochaetus tominiensis	0.297619048	3.039513678
	Zebrasoma scopas	0.332530826	2.845759818
	Zebrasoma veliferum	0.296525609	2.918327682
	Naso brevirostris	0.24935666	3.224683014
	Naso hexacanthus	0.257731959	3.067484663
	Naso lituratus	0.257731959	3.067484663
	Naso unicornis	0.262352197	3.05587048
	Naso spp.	0.261780105	3.058103976
AULOSTOMIDAE	*Aulostomus chinensis*	0.068965517	4.545454545
BALISTIDAE	*Balistapus undulatus*	0.290275762	2.895193978
	Balistoides conspicillum	0.289855072	2.898550725
	Balistoides viridescens	0.523560209	2.487562189
	Melichthys vidua	0.289855072	2.898550725
	Melichthys sp	0.215982721	3.424657534
	Odonus niger	0.215982721	3.424657534
	Pseudobalistes flavimarginatus	0.523560209	2.487562189
	Sufflamen bursa	0.272479564	3.125
	Sufflamen chrysopterus	0.280898876	3.086419753
	Xanthichthys auromarginatus	0.215982721	3.424657534
CAESIONIDAE	*Caesio cuning*	0.281214848	3.035822708
	Caesio lunaris	0.281214848	3.035822708
	Caesio teres	0.281214848	3.035822708
	Caesio spp.	0.222106727	3.360779701
	Pterocaesio digramma	0.225637369	3.341319086
	Pterocaesio marri	0.22496107	3.38890372
	Pterocaesio pisang	0.225733634	3.341129302
	Pterocaesio tile	0.210084034	3.676470588
	Pterocaesio trilineata	0.238389252	3.196695895
	Pterocaesio spp.	0.22496107	3.38890372
CARANGIDAE	*Caranx ignobilis*	0.240945857	3.234466475
	Caranx melampygus	0.270652842	3.000363044
	Caranx papuensis	0.265956032	3.040474801
	Caranx sexfasciatus	0.27100271	3.003003003
	Caranx spp.	0.27027027	3.03030303

Family	Genus and Species	biomass constant a	biomass constant b
	Gnathanodon speciosus	0.26805627	3.009546281
CARCHARINIDAE	*Carcharhinus melanopterus*	0.189753321	3.176620076
CHAETODONTIDAE	*Chaetodon auriga*	0.287429831	3.126846794
	Chaetodon baronessa	0.284090909	3.300330033
	Chaetodon bennetti	0.284090909	3.300330033
	Chaetodon citrinellus	0.295817729	3.083098761
	Chaetodon ephippium	0.284090909	3.300330033
	Chaetodon kleinii	0.310559006	3.012048193
	Chaetodon lunula	0.287356322	3.236245955
	Chaetodon melannotus	0.327862403	2.914975981
	Chaetodon mertensii	0.233759555	3.904450292
	Chaetodon meyeri	0.287356322	3.236245955
	Chaetodon ocellicaudus	0.327862403	2.914975981
	Chaetodon octofasciatus	0.310559006	3.012048193
	Chaetodon ornatissimus	0.287356322	3.236245955
	Chaetodon oxycephalus	0.287356322	3.236245955
	Chaetodon pelewensis	0.30965025	3.010778587
	Chaetodon rafflesi	0.284090909	3.300330033
	Chaetodon reticulatus	0.284090909	3.300330033
	Chaetodon semeion	0.287356322	3.134796238
	Chaetodon speculum	0.284090909	3.300330033
	Chaetodon trifascialis	0.287356322	3.236245955
	Chaetodon trifasciatus	0.307755753	3.054768953
	Chaetodon ulietensis	0.310559006	3.012048193
	Chaetodon unimaculatus	0.284090909	3.300330033
	Chaetodon vagabundus	0.287356322	3.125
	Coradion chrysozonus	0.3125	3.125
	Forcipiger flavissimus	0.27027027	3.125
	Heniochus acuminatus	0.302153143	3.133244349
	Heniochus chrysostomus	0.27192534	3.442625208
	Heniochus monoceros	0.284337281	3.207019524
	Heniochus singularius	0.3125	3.125
	Heniochus varius	0.303030303	3.134796238
CHANIDAE	*Chanos chanos*	0.204416626	3.391417002
CIRRHITIDAE	*Cirrhitichthys falco*	0.246395845	3.199385718
	Paracirrhites arcatus	0.257731959	2.923976608
	Paracirrhites forsteri	0.257731959	2.923976608
ECHNENEIDAE	*Echeneis naucrates*	0.110687057	3.459345769
FISTULARIDAE	*Fistularia commersonii*	0.076277651	3.205128205
HAEMULIDAE	*Plectorhinchus albovittatus*	0.286369663	2.884770718
	Plectorhinchus chaetodonoides	0.276243094	2.93255132
	Plectorhinchus chrysotaenia	0.202807258	3.355896142
	Plectorhinchus lineatus	0.202807258	3.355896142
	Plectorhinchus vittatus	0.202839757	3.355704698
	Plectorhinchus spp.	0.2356823	3.089280198
HEMIGALEIDAE	*Triaenodon obesus*	0.322580645	2.680965147
KYPHOSIDAE	*Kyphosus* spp.	0.263157895	3.125
LABRIDAE	*Anampses caeruleopunctatus*	0.27027027	2.702702703
	Anampses meleagrides	0.27027027	2.702702703
	Anampses neoguinaicus	0.27027027	2.702702703
	Anampses twistii	0.263157895	2.770083102
	Bodianus diana	0.27027027	2.857142857

Family	Genus and Species	biomass constant a	biomass constant b
	Bodianus mesothorax	0.245212231	3.143566691
	Cheilinus chlorourus	0.300840548	2.803397718
	Cheilinus fasciatus	0.251889169	3.115264798
	Cheilinus oxycephalus	0.257731959	2.923976608
	Cheilinus trilobatus	0.264550265	3.003003003
	Cheilinus undulatus	0.243902439	3.225806452
	Cheilinus spp.	0.243902439	3.125
	Cheilio inermis	0.158478605	3.25732899
	Choerodon anchorago	0.243309002	3.195909236
	Cirrhilabrus punctatus	0.251889169	2.801120448
	Cirrhilabrus spp.	0.240096038	2.893518519
	Coris batuensis	0.27173913	2.717391304
	Coris gaimard	0.303030303	2.702702703
	Diproctacanthus xanthurus	0.206185567	3.205128205
	Epibulus insidiator	0.264550265	3.003003003
	Gomphosus varius	0.251889169	2.801120448
	Halichoeres biocellatus	0.27173913	2.717391304
	Halichoeres chloropterus	0.263157895	2.770083102
	Halichoeres chrysus	0.27173913	2.717391304
	Halichoeres hortulanus	0.27173913	2.717391304
	Halichoeres marginatus	0.27173913	2.717391304
	Halichoeres melanurus	0.263157895	2.770083102
	Halichoeres nebulosus/margaritaceus/miniatus	0.26601831	2.75251917
	Halichoeres prosopeion	0.263157895	2.770083102
	Halichoeres richmondi	0.27173913	2.717391304
	Halichoeres scapularis	0.263123966	2.771042605
	Halichoeres spp.	0.263157895	2.770083102
	Hemigymnus fasciatus	0.244498778	3.174603175
	Hemigymnus melapterus	0.244498778	3.174603175
	Hologymnosus annulatus	0.222222222	2.631578947
	Hologymnosus sp	0.222222222	2.631578947
	Labrichthys unilineatus	0.206185567	3.205128205
	Labroides bicolor	0.200803213	3.378378378
	Labroides dimidiatus	0.200737913	3.369011162
	Labroides pectoralis	0.200803213	3.378378378
	Labroides rubrolabiatus	0.200803213	3.367003367
	Labropsis alleni	0.206185567	3.205128205
	Labropsis australis	0.206185567	3.205128205
	Labropsis xanthonota	0.206185567	3.205128205
	Leptojulis cyanopleura	0.236406619	3.012048193
	Macropharyngodon meleagris	0.25	3.125
	Macropharyngodon negrosensis	0.25	3.125
	Novaculichthys taeniourus	0.333333333	2.702702703
	Oxycheilinus celebicus	0.257731959	2.923976608
	Oxycheilinus diagrammus	0.257731959	2.923976608
	Paracheilinus filamentosus	0.240096038	2.893518519
	Pseudocheilinus evanidus	0.25	3.125
	Pseudocheilinus hexataenia	0.25	3.125
	Pseudocoris yamashiroi	0.27173913	2.717391304
	Pseudodax moluccanus	0.27027027	2.702702703
	Stethojulis bandanensis	0.236406619	3.012048193
	Stethojulis strigiventer	0.236406619	3.012048193

Family	Genus and Species	biomass constant a	biomass constant b
	Stethojulis trilineata	0.249326818	2.915366899
	Thalassoma amblycephalum	0.251889169	2.801120448
	Thalassoma hardwicke	0.251889169	2.801120448
	Thalassoma jansenii	0.251889169	2.801120448
	Thalassoma lunare	0.252725646	2.793967266
	Thalassoma quinquevittatum	0.25	3.225806452
LETHRINIDAE	*Gnathodentex aurolineatus*	0.267364667	3.098853424
	Lethrinus erythracanthus	0.222717149	3.278688525
	Lethrinus erythropterus	0.260241139	3.056916733
	Lethrinus olivaceous	0.263781947	3.00928364
	Lethrinus rubriopeculatus	0.222767259	3.268304959
	Lethrinus xanthochilus	0.222717149	3.278688525
	Lethrinus spp.	0.260416667	3.058103976
	Monotaxis grandoculis	0.290881166	2.997574962
LUTJANIDAE	*Aphareus furca*	0.263157895	2.941176471
	Aprion virescens	0.263281914	2.916132042
	Lutjanus argentmaculatus	0.291405858	2.814126917
	Lutjanus biguttatus	0.256757208	3.000255022
	Lutjanus bohar	0.252301622	3.063706717
	Lutjanus carponotatus	0.276283544	2.962164276
	Lutjanus fulviflamma	0.271452188	2.949104357
	Lutjanus fulvus	0.276283544	2.962164276
	Lutjanus gibbus	0.25	3.012048193
	Lutjanus monostigma	0.23255814	2.994011976
	Lutjanus quinquelineatus	0.271024745	3.003535161
	Lutjanus semicinctus	0.242718447	3.067484663
	Lutjanus vitta	0.242309109	3.064842881
	Lutjanus sp	0.23255814	2.994011976
	Macolor macularis	0.252525253	3.067484663
	Macolor niger	0.252525253	3.067484663
	Macolor spp.	0.25252525	3.06748466
	Symphorichthys spilurus	0.275016157	2.943678597
MALACANTHIDAE	*Aluterus scriptus*	0.217864924	3.262642741
	Malacanthus latovittatus	0.17921147	3.344481605
MOBULIDAE	*Manta birostris*	0.229357798	3.50877193
MONACANTHIDAE	*Amanses scopas*	0.289855072	2.898550725
	Cantherhines dumerilii	0.263157895	2.898550725
	Cantherhines pardalis	0.263157895	2.898550725
	Oxymonacanthus longirostris	0.25	2.777777778
MULLIDAE	*Mulloides flavolineatus*	0.200649704	3.706421746
	Mulloides vanicolensis	0.203665988	3.649635036
	Parupeneus barberinus	0.252870075	3.097682314
	Parupeneus bifasciatus	0.263157895	3.125
	Parupeneus cyclostomus	0.254452926	3.125
	Parupeneus multifasciatus	0.252525253	3.125
	Parupeneus pleurostigma	0.254452926	3.125
	Upeneus tragula	0.246891025	3.06732471
MYLIOBATIDIDAE	*Aetobatus narinari*	0.229042602	3.50877193
NEMIPTERIDAE	*Pentapodus* sp.	0.230946882	3.333333333
	Scolopsis affinis	0.263157895	2.976190476
	Scolopsis bilineatus	0.256012452	3.18571779
	Scolopsis ciliatus	0.263157895	2.976190476

Family	Genus and Species	biomass constant a	biomass constant b
	Scolopsis margaritifer	0.256012452	3.18571779
	Scolopsis trilineatus	0.255754476	3.184713376
	unid nemipterid	0.256012452	3.18571779
OSTRACIDAE	*Ostracion cubicus*	0.410160496	2.594255799
	Ostracion meleagris	0.5	2.415458937
PINGUIPEDIDAE	*Parapercis miillipunctata*	0.221238938	3.184713376
	Parapercis sp.	0.221238938	3.184713376
PLATACIDAE	*Platax pinnatus*	0.333333333	2.976190476
POMACANTHIDAE	*Apolemichthys trimaculatus*	0.362581581	2.616841995
	Centropyge bicolor	0.338983051	2.808988764
	Centropyge bispinosus	0.386681154	2.408402434
	Centropyge flavissimus	0.348432056	2.645502646
	Centropyge nox	0.386681154	2.408402434
	Centropyge vroliki	0.338983051	2.811357886
	Chaetodontoplus mesoleucus	0.281690141	3.225806452
	Pomacanthus imperator	0.281690141	3.225806452
	Pomacanthus navarchus	0.281690141	3.225806452
	Pomacanthus semicirculatus	0.281690141	3.225806452
	Pomacanthus sexstriatus	0.281690141	3.225806452
	Pomacanthus xanthometopon	0.281690141	3.225806452
	Pygoplites diacanthus	0.281690141	3.225806452
POMACENTRIDAE	*Abudefduf vaigiensis*	0.298329356	3.17510716
	Acanthochromis polyacanthus	0.279490433	3.534693012
	Amblyglyphidodon aureus	0.302160447	3.173595684
	Amblyglyphidodon curacao	0.302159534	3.173988529
	Amblyglyphidodon leucogaster	0.302114804	3.174603175
	Amphiprion chrysopterus	0.297450846	3.132243313
	Amphiprion clarkii	0.294117647	3.125
	Amphiprion leucokranos	0.294117647	3.125
	Amphiprion ocellaris	0.294117647	3.125
	Amphiprion perideraion	0.294117647	3.125
	Chromis acares	0.326797386	2.72479564
	Chromis alpha	0.279490433	3.534693012
	Chromis amboinensis	0.319488818	2.923976608
	Chromis atripes	0.326797386	2.72479564
	Chromis delta	0.319488818	2.923976608
	Chromis elerae	0.319488818	2.923976608
	Chromis iomelas	0.298002193	3.025974969
	Chromis lepidolepis	0.326615932	2.720836712
	Chromis lineata	0.326797386	2.72479564
	Chromis margaritifer	0.319488818	2.923976608
	Chromis retrofasciata	0.308667698	4.366831296
	Chromis ternatensis	0.297038232	3.408002672
	Chromis viridis	0.326970488	2.723808538
	Chromis weberi	0.319488818	2.923976608
	Chromis xanthochira	0.279485746	3.534817957
	Chromis xanthura	0.279485746	3.534817957
	Chromis spp.	0.326797386	2.72479564
	Chrysiptera cymatilis	0.282050053	3.170265446
	Chrysiptera flavipinnis	0.282050053	3.170265446
	Chrysiptera oxycephala	0.282050053	3.170265446
	Chrysiptera parasema	0.282050053	3.170265446
	Chrysiptera rex	0.294985251	3.115264798

Family	Genus and Species	biomass constant a	biomass constant b
	Chrysiptera rollandi	0.304878049	2.824858757
	Chrysiptera talboti	0.304878049	2.824858757
	Dascyllus aruanus	0.348608182	2.946341233
	Dascyllus melanurus	0.348432056	2.949852507
	Dascyllus reticulatus	0.352112676	2.857142857
	Dascyllus trimaculatus	0.352112676	2.857142857
	Dischistodus melanotus	0.366300366	2.873563218
	Dischistodus perspicillatus	0.366300366	2.873563218
	Dischistodus prosopotaenia	0.366300366	2.873563218
	Hemigylphidodon plagiometopon	0.366300366	2.873563218
	Lepidozygus tapeinosoma	0.265251989	2.88184438
	Neoglyphidodon melas	0.303030303	3.03030303
	Neoglyphidodon nigroris	0.303030303	3.03030303
	Neoglyphidodon thoracotaeniatus	0.303030303	3.03030303
	Neopomacentrus nemurus	0.296735905	3.460207612
	Plectroglyphidodon dickii	0.277777778	3.03030303
	Plectroglyphidodon lacrymatus	0.277777778	3.03030303
	Pomacentrus adelus	0.35335689	2.666666667
	Pomacentrus amboinensis	0.353581783	2.66771241
	Pomacentrus aurifrons	0.278551532	3.067484663
	Pomacentrus bankanensis	0.35335689	2.673796791
	Pomacentrus brachialis	0.308033514	3.031772981
	Pomacentrus burroughi	0.35335689	2.666666667
	Pomacentrus coelestis	0.298507463	2.857142857
	Pomacentrus grammorhynchus	0.338778635	2.729585431
	Pomacentrus lepidogenys	0.3129293	3.107877537
	Pomacentrus moluccensis	0.319665502	3.024455749
	Pomacentrus nagasakiensis	0.307125307	3.046922608
	Pomacentrus nigromanus	0.338778635	2.729585431
	Pomacentrus philippinus	0.272466201	3.516817421
	Pomacentrus reidi	0.279490433	3.534693012
	Pomacentrus simsiang	0.319665502	3.024455749
	Pomacentrus vaiuli	0.338778635	2.729585431
	Premnas biaculeatus	0.297450846	3.132243313
	Stegastes albifasciatus	0.366300366	2.873563218
	Stegastes fasciolatus	0.366032211	2.876869965
	Stegastes gascoynei	0.366032211	2.876869965
	Stegastes spp.	0.366300366	2.873563218
PRIACANTHIDAE	*Priacanthus hamrur*	0.272300751	2.851984839
SCARIDAE	*Bolbometopon muricatum*	0.277777778	3.225806452
	Calotomus carolinus	0.252079657	3.111387679
	Cetoscarus bicolor	0.24691358	3.236245955
	Chlorurus bleekeri	0.266240682	3.076923077
	Chlorurus microrhinos	0.215517241	3.401360544
	Chlorurus pyrrhurus	0.24691358	3.236245955
	Chlorurus sordidus	0.289646024	2.94134084
	Hipposcarus longiceps	0.24691358	3.236245955
	Scarus altipinnis	0.24691358	3.236245955
	Scarus chameleon	0.24691358	3.236245955
	Scarus dimidiatus	0.215517241	3.412969283
	Scarus flavipectoralis	0.266240682	3.076923077
	Scarus forsteni	0.24691358	3.236245955
	Scarus frenatus	0.24691358	3.236245955

Family	Genus and Species	biomass constant a	biomass constant b
	Scarus ghobban	0.298507463	2.906976744
	Scarus niger	0.24691358	3.236245955
	Scarus oviceps	0.24691358	3.236245955
	Scarus prasiognathos	0.298507463	2.906976744
	Scarus psittacus	0.24691358	3.236245955
	Scarus quoyi	0.24691358	3.236245955
	Scarus rivulatus	0.266230049	3.077889061
	Scarus rubroviolaceus	0.298507463	2.898550725
	Scarus schlegeli	0.28304557	2.971573924
	Scarus spinus	0.289687138	2.941176471
	Scarus tricolor	0.24691358	3.236245955
	unid scarid	0.24691358	3.236245955
SCOMBRIDAE	*Rastrelliger kanagurta*	0.143612132	3.205004936
	unid scombrid	0.238663484	2.840909091
SERRANIDAE	*Aethaloperca rogae*	0.23433092	3.14698443
	Anyperodon leucogrammicus	0.248756219	2.976190476
	Cephalopholis argus	0.229186434	3.18139014
	Cephalopholis boenak	0.239143484	3.124121341
	Cephalopholis cyanostigma	0.23923445	3.125
	Cephalopholis leopardus	0.23923445	3.125
	Cephalopholis microprion	0.23923445	3.125
	Cephalopholis miniata	0.246840442	3.032618848
	Cephalopholis sexmaculata	0.24691358	3.039513678
	Cephalopholis urodeta	0.23923445	3.125
	Cephalopholis spp.	0.23433092	3.14698443
	Cromileptes altivelis	0.262398321	3.055300947
	Diploprion bifasciatum	0.333333333	3.125
	Epinephelus corallicola	0.236966825	3.039513678
	Epinephelus fasciatus	0.264135893	2.911123403
	Epinephelus fuscoguttatus	0.240384615	3.067484663
	Epinephelus melanostigma	0.252525253	2.941176471
	Epinephelus merra	0.252504848	2.942223556
	Epinephelus polyphekadion	0.24026506	3.065556935
	Epinephelus spilotoceps	0.252525253	2.941176471
	Epinephelus spp.	0.229357798	3.058103976
	Gracila albomarginata	0.227272727	3.144654088
	Luzonichthys waitei	0.255918106	3.14861461
	Plectropomus areolatus	0.315457413	2.770083102
	Plectropomus laevis	0.315457413	2.770083102
	Plectropomus leopardus	0.222137316	3.135769408
	Plectropomus oligacanthus	0.315457413	2.770083102
	Plectropomus spp.	0.315457413	2.770083102
	Pseudanthias dispar	0.278551532	3.072196621
	Pseudanthias huchti	0.278551532	3.072196621
	Pseudanthias pascalus	0.278551532	3.072196621
	Pseudanthias tuka	0.278551532	3.072196621
	Pseudanthias spp.	0.285714286	3.333333333
	Variola albimarginata	0.227331627	3.138899439
	Variola louti	0.227331627	3.138899439
	Variola sp	0.227331627	3.138899439
SIGANIDAE	*Siganus argenteus*	0.240226966	3.157482602
	Siganus corallinus	0.273972603	3.021148036
	Siganus doliatus	0.27359332	3.020098757

Family	Genus and Species	biomass constant a	biomass constant b
	Siganus fuscescens	0.247297655	3.06954672
	Siganus lineatus	0.278947809	3.009972037
	Siganus puellus	0.251889169	3.184713376
	Siganus punctatissimus	0.25	3.067484663
	Siganus vermiculatus	0.278947809	3.009972037
	Siganus vulpinus	0.25	3.067484663
	Siganus spp.	0.251889169	3.184713376
SPHYRAENIDAE	*Sphyraena barracuda*	0.185117652	3.006334346
	Sphyrna sp.	0.189899258	3.175974389
SYNODONTIDAE	*Synodus* spp.	0.200803213	3.215434084
TETRAODONTIDAE	*Arothron mappa*	0.313116448	2.760905577
	Arothron nigropunctatus	0.303030303	2.777777778
	Arothron sp.	0.303030303	2.777777778
	Canthigaster papua	0.321543408	2.865329513
	Canthigaster valentini	0.321458651	2.862737464
	Diodon sp	0.423642649	2.618925403
ZANCLIDAE	*Zanclus cornutus*	0.257731959	3.067484663

Appendix 2. Mean density of each of the most abundant families of reef fishes on sheltered and exposed reefs slopes (10m) in the Solomon Islands.

Province	Island	Site	Exposure	Mean Density (per ha)	Butterflyfishes	Damselfishes	Emperors	Fusiliers	Groupers & Fairy Basslets	Parrotfishes	Drummers	Snappers	Surgeonfishes	Triggerfishes	Wrasses
Central	**Floridas**	**1**	**shelt**	**mean**	**40.00**	**21733.33**	**74.67**	**0.00**	**309.33**	**965.33**	**0.00**	**80.00**	**336.00**	**277.33**	**1344.00**
				sd	59.63	8470.21	145.63	0.00	278.63	801.59	0.00	116.62	218.56	197.41	910.75
		2	**exp**	**mean**	**466.67**	**11800.00**	**0.00**	**1653.33**	**234.67**	**360.00**	**0.00**	**280.00**	**2037.33**	**184.00**	**1008.00**
				sd	194.37	5603.77	0.00	1597.25	130.84	224.10	0.00	234.95	728.80	147.09	578.63
		62	**exp**	**mean**	**160.00**	**21400.00**	**0.00**	**2226.67**	**2960.00**	**549.33**	**0.00**	**40.00**	**773.33**	**88.00**	**10880.00**
				sd	203.31	10012.21	0.00	3455.62	3566.35	856.58	0.00	59.63	806.42	140.03	5244.98
		63	**shelt**	**mean**	**280.00**	**72933.33**	**24.00**	**4272.00**	**130.67**	**266.67**	**0.00**	**53.33**	**170.67**	**93.33**	**1042.67**
				sd	218.07	44880.33	21.91	4548.62	95.41	235.70	0.00	73.03	43.61	102.42	286.81
Central	**Russells**	**38**	**exp**	**mean**	**440.00**	**48266.67**	**3397.33**	**4000.00**	**3861.33**	**1024.00**	**2589.33**	**9304.00**	**1752.00**	**144.00**	**853.33**
				sd	417.93	25041.52	3969.56	4013.59	4433.45	268.56	626.34	4869.75	1176.16	98.16	216.02
		39	**shelt**	**mean**	**346.67**	**46400.00**	**336.00**	**733.33**	**85.33**	**1405.33**	**0.00**	**184.00**	**552.00**	**29.33**	**1018.67**
				sd	196.64	12134.43	102.59	1639.78	20.22	319.11	0.00	87.64	305.88	28.91	191.51
		40	**exp**	**mean**	**640.00**	**29680.00**	**4538.67**	**0.00**	**877.33**	**712.00**	**0.00**	**474.67**	**1293.33**	**186.67**	**1165.33**
				sd	243.13	7655.85	8311.99	0.00	1133.47	280.57	0.00	290.38	483.41	58.88	500.19
		41	**shelt**	**mean**	**280.00**	**27066.67**	**610.67**	**2917.33**	**4117.33**	**3578.67**	**3869.33**	**5112.00**	**642.67**	**184.00**	**744.00**
				sd	251.22	7338.63	1006.79	5137.53	3027.10	5400.77	8607.44	10604.92	517.03	154.17	668.56
Central	**Savo**	**64**	**exp**	**mean**	**733.33**	**42533.33**	**1706.67**	**10693.33**	**3218.67**	**146.67**	**392.00**	**1296.00**	**1528.00**	**165.33**	**1221.33**
				sd	188.56	11582.07	1675.89	11394.99	4916.00	128.24	876.54	905.71	1041.14	113.76	571.21
Choiseul	**Choiseul**	**17**	**exp**	**mean**	**360.00**	**19200.00**	**912.00**	**12733.33**	**973.33**	**1474.67**	**128.00**	**7712.00**	**4693.33**	**258.67**	**2029.33**
				sd	273.25	8002.08	650.24	4085.20	1670.69	1052.68	286.22	3311.21	1336.36	114.93	1108.49
		18	**shelt**	**mean**	**386.67**	**64400.00**	**608.00**	**2018.67**	**1640.00**	**314.67**	**0.00**	**1346.67**	**858.67**	**186.67**	**1056.00**
				sd	136.63	48101.40	587.47	1558.48	2101.83	120.96	0.00	847.32	215.74	146.36	426.40
		19	**shelt**	**mean**	**293.33**	**23866.67**	**168.00**	**7653.33**	**117.33**	**341.33**	**0.00**	**413.33**	**626.67**	**133.33**	**930.67**
				sd	292.88	9349.99	57.81	2495.95	64.22	293.42	0.00	327.14	121.11	38.87	426.92
		20	**exp**	**mean**	**640.00**	**13000.00**	**381.33**	**7613.33**	**74.67**	**1973.33**	**0.00**	**1325.33**	**2064.00**	**85.33**	**936.00**
				sd	129.96	4203.17	417.14	9843.94	78.66	2847.46	0.00	1409.67	875.62	68.38	339.59
		21	**exp**	**mean**	**400.00**	**24680.00**	**1413.33**	**1573.33**	**1306.67**	**389.33**	**0.00**	**421.33**	**15117.33**	**3530.67**	**6618.67**
				sd	188.56	6505.62	1480.93	2239.84	1051.77	203.39	0.00	243.78	5825.56	2707.97	7714.91

Province	Island	Site	Exposure	Mean Density (per ha)		Butterflyfishes	Damselfishes	Emperors	Fusiliers	Groupers & Fairy Basslets	Parrotfishes	Drummers	Snappers	Surgeonfishes	Triggerfishes	Wrasses
	Choiseul (con't)	**22**	**shelt**	**mean**		**533.33**	**34266.67**	**413.33**	**1320.00**	**120.00**	**776.00**	**0.00**	**461.33**	**1344.00**	**197.33**	**2216.00**
				sd		339.93	13772.76	511.82	1681.53	157.48	510.55	0.00	483.29	674.38	23.85	2563.68
		23	**exp**	**mean**		**560.00**	**21533.33**	**3957.33**	**4277.33**	**522.67**	**584.00**	**8.00**	**205.33**	**2122.67**	**120.00**	**1101.33**
				sd		269.16	2652.04	5809.89	5860.08	940.75	318.25	17.89	112.59	703.35	32.66	168.02
		24	**shelt**	**mean**		**320.00**	**26866.67**	**101.33**	**453.33**	**45.33**	**106.67**	**0.00**	**29.33**	**426.67**	**24.00**	**2176.00**
				sd		228.04	7858.47	74.60	712.05	60.07	76.01	0.00	40.44	173.85	53.67	439.03
	Guadalcanal	**42**	**exp**	**mean**		**160.00**	**18933.33**	**397.33**	**0.00**	**517.33**	**453.33**	**0.00**	**469.33**	**2530.67**	**520.00**	**2874.67**
				sd		138.24	12200.64	700.12	0.00	428.06	327.96	0.00	795.17	3315.18	263.48	2212.96
		43	**shelt**	**mean**		**506.67**	**24533.33**	**686.67**	**24.00**	**632.00**	**600.00**	**0.00**	**1500.00**	**288.00**	**597.33**	**842.67**
				sd		498.00	6890.41	345.90	53.67	1058.24	235.70	0.00	1796.44	184.17	573.75	237.47
		65	**exp**	**mean**		**400.00**	**9266.67**	**112.00**	**0.00**	**69.33**	**808.00**	**0.00**	**200.00**	**1266.67**	**152.00**	**605.33**
				sd		235.70	4968.79	17.89	0.00	43.61	727.16	0.00	165.19	561.74	126.70	141.92
		66	**exp**	**mean**		**26.67**	**11000.00**	**0.00**	**400.00**	**154.67**	**280.00**	**0.00**	**21.33**	**1013.33**	**296.00**	**4973.33**
				sd		36.51	5174.72	0.00	894.43	200.13	366.36	0.00	47.70	1943.31	139.33	4738.87
	Isabel	**15**	**exp**	**mean**		**266.67**	**41266.67**	**2978.67**	**1120.00**	**416.00**	**2088.00**	**1200.00**	**8288.00**	**2432.00**	**261.33**	**5461.33**
				sd		182.57	10401.39	2518.95	1752.71	352.57	2052.07	1788.85	8472.10	797.59	157.93	6619.84
		16	**shelt**	**mean**		**426.67**	**27933.33**	**1248.00**	**973.33**	**154.67**	**984.00**	**0.00**	**773.33**	**1144.00**	**146.67**	**1386.67**
				sd		256.47	9900.62	1033.77	1214.36	120.22	511.42	0.00	589.92	941.41	151.73	716.66
	Isabel	**3**	**exp**	**mean**		**306.67**	**14266.67**	**80.00**	**3061.33**	**48.00**	**226.67**	**576.00**	**0.00**	**2181.33**	**154.67**	**893.33**
				sd		252.10	9813.26	138.56	802.58	52.15	153.48	1111.97	0.00	1435.16	57.81	1067.29
		4	**shelt**	**mean**		**440.00**	**19240.00**	**109.33**	**4069.33**	**232.00**	**280.00**	**432.00**	**6186.67**	**80.00**	**146.67**	**776.00**
				sd		296.65	7495.87	62.11	4102.63	153.65	172.56	597.60	8616.44	119.26	136.95	166.91
		5	**exp**	**mean**		**533.33**	**20400.00**	**2208.00**	**720.00**	**13.33**	**120.00**	**0.00**	**2893.33**	**5189.33**	**384.00**	**741.33**
				sd		286.74	6317.52	1597.35	995.99	29.81	136.63	0.00	6313.34	3448.56	334.32	87.74
		6	**shelt**	**mean**		**413.33**	**11666.67**	**133.33**	**504.00**	**120.00**	**224.00**	**0.00**	**290.67**	**1080.00**	**304.00**	**1261.33**
				sd		341.24	2415.23	109.95	1126.98	127.54	51.12	0.00	303.23	938.84	128.37	1085.36
		7	**exp**	**mean**		**666.67**	**29533.33**	**298.67**	**4386.67**	**154.67**	**1010.67**	**893.33**	**2469.33**	**1565.33**	**170.67**	**1040.00**
					sd	429.47	12506.89	528.53	6293.98	309.92	1061.84	1266.32	1982.22	590.94	171.89	306.38

Province	Island	Site	Exposure	Mean Density (per ha)	Butterflyfishes	Damselfishes	Emperors	Fusiliers	Groupers & Fairy Basslets	Parrotfishes	Drummers	Snappers	Surgeonfishes	Triggerfishes	Wrasses
	(Isabel con't)	**8**	**shelt**	**mean**	**80.00**	**30066.67**	**96.00**	**2562.67**	**269.33**	**200.00**	**16.00**	**354.67**	**2464.00**	**178.67**	**794.67**
				sd	86.92	6024.95	104.31	2639.70	125.22	163.30	35.78	410.92	695.73	273.35	575.16
		9	**exp**	**mean**	**160.00**	**12066.67**	**48.00**	**906.67**	**88.00**	**480.00**	**0.00**	**309.33**	**1810.67**	**64.00**	**1106.67**
				sd	146.06	3378.03	52.15	2027.37	103.54	190.90	0.00	619.85	1179.02	53.67	347.82
		10	**shelt**	**mean**	**106.67**	**23866.67**	**277.33**	**408.00**	**13.33**	**186.67**	**0.00**	**8.00**	**504.00**	**16.00**	**754.67**
				sd	138.24	13710.50	357.45	752.69	29.81	184.99	0.00	17.89	430.54	21.91	653.10
		11	**exp**	**mean**	**186.67**	**13333.33**	**997.33**	**7906.67**	**80.00**	**1298.67**	**0.00**	**6266.67**	**3834.67**	**1848.00**	**768.00**
				sd	144.53	5359.31	1374.87	3980.40	89.94	1090.30	0.00	4040.73	1216.43	1288.22	316.59
		12	**shelt**	**mean**	**93.33**	**11600.00**	**170.67**	**466.67**	**0.00**	**578.67**	**0.00**	**29.33**	**90.67**	**56.00**	**781.33**
				sd	59.63	760.12	94.00	689.61	0.00	302.52	0.00	28.91	109.30	21.91	296.44
		13	**exp**	**mean**	**80.00**	**14800.00**	**706.67**	**4320.00**	**184.00**	**640.00**	**0.00**	**53.33**	**1648.00**	**128.00**	**3016.00**
				sd	119.26	5053.05	1109.15	9659.81	96.79	538.72	0.00	41.10	1656.41	86.72	1235.60
		14	**shelt**	**mean**	**200.00**	**78466.67**	**1018.67**	**5194.67**	**106.67**	**322.67**	**0.00**	**202.67**	**1850.67**	**269.33**	**2130.67**
				sd	94.28	66277.45	831.31	5493.44	116.62	230.63	0.00	112.11	2399.73	109.71	1247.13
Makira	**Makira**	**44**	**exp**	**mean**	**253.33**	**9826.67**	**2696.00**	**533.33**	**34.67**	**1562.67**	**4229.33**	**3458.67**	**1130.67**	**72.00**	**1098.67**
				sd	272.44	4595.31	3356.38	1192.57	57.81	1679.72	5648.98	5631.80	595.94	75.78	540.83
		45	**shelt**	**mean**	**293.33**	**13866.67**	**85.33**	**2653.33**	**82.67**	**698.67**	**16.00**	**0.00**	**496.00**	**56.00**	**866.67**
				sd	138.24	7911.31	112.59	3522.12	27.33	663.23	35.78	0.00	836.68	35.78	226.08
		46	**exp**	**mean**	**613.33**	**18133.33**	**405.33**	**1120.00**	**50.67**	**968.00**	**0.00**	**1405.33**	**2490.67**	**162.67**	**1002.67**
				sd	178.89	3927.11	585.95	1137.64	39.33	600.19	0.00	2389.73	329.36	102.59	300.43
		47	**shelt**	**mean**	**80.00**	**17133.33**	**69.33**	**2226.67**	**154.67**	**80.00**	**0.00**	**541.33**	**106.67**	**101.33**	**1240.00**
				sd	55.78	11729.83	99.51	1619.74	148.05	86.92	0.00	515.85	101.11	94.56	493.51
Makira	**Three Sisters**	**48**	**exp**	**mean**	**213.33**	**27866.67**	**176.00**	**0.00**	**90.67**	**640.00**	**0.00**	**456.00**	**1658.67**	**186.67**	**2381.33**
				sd	73.03	15015.92	175.73	0.00	78.54	378.89	0.00	511.16	647.15	129.27	1998.77
		49	**shelt**	**mean**	**146.67**	**49933.33**	**266.67**	**3266.67**	**2461.33**	**458.67**	**160.00**	**101.33**	**784.00**	**354.67**	**7562.67**
				sd	184.99	23760.85	284.72	7304.49	4603.35	212.21	357.77	146.55	280.22	140.35	6810.54
Makira	**Ugi**	**50**	**exp**	**mean**	**453.33**	**43866.67**	**618.67**	**3573.33**	**2082.67**	**1637.33**	**0.00**	**1040.00**	**1818.67**	**416.00**	**3458.67**
				sd	259.91	17245.93	1235.28	3995.72	2621.88	1041.68	0.00	1326.88	559.65	64.22	2311.30
		51	**shelt**	**mean**	**200.00**	**57066.67**	**1546.67**	**3853.33**	**1410.67**	**400.00**	**0.00**	**194.67**	**1442.67**	**317.33**	**2117.33**
				sd	205.48	23013.76	2040.30	4311.07	2498.06	235.70	0.00	249.02	379.17	472.48	1413.03

Province	Island	Site	Exposure	Mean Density (per ha)	Butterflyfishes	Damselfishes	Emperors	Fusiliers	Groupers & Fairy Basslets	Parrotfishes	Drummers	Snappers	Surgeonfishes	Triggerfishes	Wrasses
Malaita	Malaita	52	shelt	mean	**226.67**	**32400.00**	**56.00**	**1786.67**	**42.67**	**808.00**	**0.00**	**104.00**	**541.33**	**429.33**	**1221.33**
				sd	186.19	14244.69	56.88	2757.78	45.61	482.92	0.00	144.35	504.08	333.92	371.14
		53	exp	mean	**306.67**	**17733.33**	**453.33**	**1160.00**	**66.67**	**541.33**	**202.67**	**826.67**	**1184.00**	**165.33**	**1088.00**
				sd	101.11	5688.19	302.14	1342.97	40.00	432.93	303.37	1200.56	234.08	120.59	523.29
		54	shelt	mean	**200.00**	**20960.00**	**45.33**	**0.00**	**122.67**	**1400.00**	**13.33**	**56.00**	**136.00**	**136.00**	**925.33**
				sd	81.65	16043.59	70.30	0.00	76.25	426.87	29.81	87.64	97.25	111.71	149.84
		55	exp	mean	**346.67**	**9733.33**	**85.33**	**0.00**	**104.00**	**378.67**	**0.00**	**1069.33**	**2096.00**	**138.67**	**861.33**
				sd	212.92	4361.45	134.20	0.00	64.22	183.93	0.00	1336.11	955.10	82.52	388.11
		56	exp	mean	**120.00**	**19466.67**	**232.00**	**4165.33**	**40.00**	**440.00**	**0.00**	**80.00**	**1901.33**	**160.00**	**1210.67**
				sd	55.78	5096.84	156.23	2868.26	59.63	363.93	0.00	61.82	2417.89	126.49	683.29
		57	shelt	mean	**173.33**	**26666.67**	**69.33**	**2813.33**	**109.33**	**586.67**	**0.00**	**186.67**	**2138.67**	**82.67**	**970.67**
				sd	138.24	15396.61	99.51	5889.43	28.91	589.54	0.00	243.49	1337.68	67.59	232.17
		58	exp	mean	**440.00**	**27466.67**	**349.33**	**1453.33**	**96.00**	**760.00**	**104.00**	**829.33**	**2861.33**	**106.67**	**957.33**
				sd	192.06	9311.28	144.35	2001.33	77.97	410.53	232.55	775.48	1078.67	120.37	177.74
		59	shelt	mean	**213.33**	**15466.67**	**237.33**	**133.33**	**82.67**	**1328.00**	**0.00**	**109.33**	**2162.67**	**160.00**	**1082.67**
				sd	55.78	5585.70	331.11	188.56	115.62	182.96	0.00	166.64	474.17	56.57	437.30
		60	exp	mean	**226.67**	**8600.00**	**80.00**	**1920.00**	**72.00**	**666.67**	**21.33**	**61.33**	**1082.67**	**98.67**	**2117.33**
				sd	197.77	3294.78	61.82	1688.79	101.37	385.86	30.70	48.63	434.96	61.54	625.28
		61	shelt	mean	**106.67**	**6266.67**	**69.33**	**853.33**	**13.33**	**194.67**	**0.00**	**93.33**	**106.67**	**13.33**	**240.00**
				sd	111.55	6563.37	133.80	1227.83	29.81	180.52	0.00	208.70	111.55	29.81	197.77
Western	New Georgia	29	exp	mean	**0.00**	**0.00**	**168.00**	**0.00**	**96.00**	**1776.00**	**0.00**	**6216.00**	**5424.00**	**200.00**	**56.00**
				sd	0.00	0.00	353.72	0.00	104.31	2515.01	0.00	7282.34	7383.58	162.48	104.31
		30	exp	mean	**0.00**	**0.00**	**264.00**	**0.00**	**40.00**	**40.00**	**16.00**	**344.00**	**216.00**	**120.00**	**72.00**
				sd	0.00	0.00	480.50	0.00	40.00	0.00	35.78	508.02	143.11	80.00	33.47
		31	shelt	mean	**493.33**	**31200.00**	**242.67**	**5040.00**	**104.00**	**853.33**	**0.00**	**77.33**	**1818.67**	**144.00**	**760.00**
				sd	318.33	9136.62	166.37	2523.49	108.07	246.76	0.00	110.92	389.03	60.66	458.50
		32	exp	mean	**640.00**	**58733.33**	**290.67**	**1813.33**	**600.00**	**162.67**	**0.00**	**15533.33**	**2168.00**	**613.33**	**1037.33**
				sd	173.85	40339.81	277.51	3061.74	933.33	154.46	0.00	19692.46	568.16	901.41	218.56
		33	exp	mean	**426.67**	**48333.33**	**541.33**	**10653.33**	**6528.00**	**2474.67**	**1520.00**	**3642.67**	**512.00**	**178.67**	**773.33**
				sd	180.12	36611.32	685.18	4257.12	6643.56	3836.56	1396.28	4188.04	241.40	200.13	391.24

Province	Island	Site	Exposure	Mean Density (per ha)	Butterflyfishes	Damselfishes	Emperors	Fusiliers	Groupers & Fairy Basslets	Parrotfishes	Drummers	Snappers	Surgeonfishes	Triggerfishes	Wrasses
	New Georgia (con't)	**34**	**exp**	**mean**	**746.67**	**34413.33**	**1642.67**	**3400.00**	**584.00**	**810.67**	**0.00**	**1256.00**	**2568.00**	**64.00**	**698.67**
				sd	369.38	8702.54	1948.98	3376.72	1204.23	342.33	0.00	1070.01	1214.75	66.93	379.54
		35	**shelt**	**mean**	**306.67**	**53600.00**	**96.00**	**21213.33**	**13749.33**	**312.00**	**0.00**	**1160.00**	**1632.00**	**45.33**	**693.33**
				sd	252.10	17805.12	72.66	19996.36	10288.77	263.41	0.00	2504.72	1711.65	41.74	146.06
		36	**exp**	**mean**	**506.67**	**23800.00**	**1418.67**	**10392.00**	**6032.00**	**1346.67**	**648.00**	**482.67**	**2776.00**	**181.33**	**882.67**
				sd	401.66	7879.65	1987.57	9992.64	5501.94	1738.48	1426.72	473.23	387.29	108.98	268.23
		37	**shelt**	**mean**	**533.33**	**61200.00**	**794.67**	**9349.33**	**125.33**	**698.67**	**0.00**	**853.33**	**1448.00**	**341.33**	**2008.00**
				sd	124.72	11329.90	1099.64	12782.96	67.07	253.44	0.00	1169.43	561.00	265.93	1810.28
	Shortlands	**25**	**exp**	**mean**	**466.67**	**32000.00**	**1030.00**	**2033.33**	**482.67**	**453.33**	**0.00**	**4646.67**	**4805.33**	**390.00**	**4106.67**
				sd	278.89	12018.50	1488.22	600.00	477.72	440.71	0.00	5814.38	2287.70	279.97	6997.47
		26	**shelt**	**mean**	**680.00**	**26400.00**	**165.33**	**4026.67**	**42.67**	**861.33**	**0.00**	**143.33**	**1426.67**	**125.33**	**1200.00**
				sd	387.01	8351.31	138.11	2647.68	54.49	607.48	0.00	88.69	296.65	20.22	447.91
		27	**exp**	**mean**	**0.00**	**0.00**	**7016.00**	**2400.00**	**0.00**	**5392.00**	**0.00**	**14896.00**	**7888.00**	**168.00**	**0.00**
				sd	0.00	0.00	7984.46	5366.56	0.00	5037.73	0.00	9074.39	4656.47	127.75	0.00
		28	**shelt**	**mean**	**0.00**	**0.00**	**64.00**	**736.00**	**48.00**	**0.00**	**0.00**	**184.00**	**24.00**	**208.00**	**56.00**
				sd	0.00	0.00	87.64	718.67	17.89	0.00	0.00	368.35	53.67	121.33	77.97

Appendix 3. Mean biomass of each of the most abundant families of reef fishes on sheltered and exposed reefs slopes (10m) in the Solomon Islands.

					Bony Fishes									Sharks & Rays	
Province	Island	Site	Exposure	Mean Biomass (kg/ha)	Damselfishes	Emperors	Fusiliers	Parrotfishes	Drummers	Snappers	Surgeonfishes	Triggerfishes	TOTAL (all bony fishes)	Sharks	Rays
Central	**Floridas**	**1**	**shelt**	**mean**	**125.30**	**11.93**	**0.00**	**127.69**	**0.00**	**52.13**	**29.68**	**103.65**	**559.87**	**0.00**	**0.00**
				sd	81.18	16.76	0.00	66.64	0.00	58.92	23.29	130.10	74.30	0.00	0.00
		2	**exp**	**mean**	**143.92**	**0.00**	**160.81**	**53.05**	**0.00**	**160.67**	**212.56**	**37.01**	**1032.35**	**0.00**	**0.00**
				sd	95.25	0.00	161.97	27.34	0.00	114.23	103.45	67.02	237.97	0.00	0.00
		62	**exp**	**mean**	**56.06**	**0.00**	**206.10**	**294.85**	**0.00**	**2.58**	**44.90**	**3.13**	**688.82**	**0.00**	**0.00**
				sd	26.64	0.00	381.35	489.55	0.00	4.73	82.17	5.12	545.59	0.00	0.00
		63	**shelt**	**mean**	**270.34**	**0.49**	**135.31**	**44.20**	**0.00**	**5.71**	**15.13**	**2.21**	**617.16**	**0.00**	**0.00**
				sd	99.91	0.49	185.50	45.12	0.00	8.05	1.89	2.38	249.76	0.00	0.00
Central	**Russells**	**38**	**exp**	**mean**	**179.17**	**1174.34**	**272.00**	**594.07**	**1036.40**	**2730.29**	**202.39**	**99.09**	**7614.71**	**281.50**	**0.00**
				sd	124.01	697.26	315.24	359.86	168.71	1393.11	246.63	117.19	1760.75	264.56	0.00
		39	**shelt**	**mean**	**181.01**	**24.54**	**21.05**	**343.69**	**0.00**	**41.86**	**52.22**	**1.28**	**797.02**	**0.00**	**0.00**
				sd	45.39	7.12	47.07	189.24	0.00	49.41	48.54	1.44	172.68	0.00	0.00
		40	**exp**	**mean**	**126.78**	**349.61**	**0.00**	**269.11**	**0.00**	**172.71**	**151.59**	**40.06**	**1242.63**	**0.00**	**0.00**
				sd	50.76	502.94	0.00	249.83	0.00	160.51	93.76	49.09	662.08	0.00	0.00
		41	**shelt**	**mean**	**123.14**	**301.45**	**142.06**	**1262.75**	**1391.47**	**692.76**	**112.51**	**189.47**	**4455.61**	**78.34**	**0.00**
				sd	78.95	492.20	166.65	1984.24	3103.39	1344.31	164.52	227.42	6461.75	50.30	0.00
Central	**Savo**	**64**	**exp**	**mean**	**133.11**	**163.64**	**1501.91**	**26.15**	**1232.38**	**564.25**	**132.30**	**6.80**	**3919.65**	**0.00**	**0.00**
				sd	33.70	163.87	1771.79	26.66	2755.68	1120.40	104.72	9.38	2268.36	0.00	0.00
Choiseul	**Choiseul**	**17**	**exp**	**mean**	**229.10**	**481.77**	**831.19**	**944.91**	**46.13**	**2195.99**	**690.82**	**184.96**	**5923.19**	**0.00**	**0.00**
				sd	144.88	699.02	596.76	807.67	103.14	1485.70	293.35	106.87	2401.30	0.00	0.00
		18	**shelt**	**mean**	**311.17**	**103.42**	**155.82**	**126.99**	**0.00**	**320.62**	**71.53**	**31.09**	**1263.82**	**0.00**	**0.00**
				sd	183.67	129.79	132.02	212.87	0.00	355.26	17.51	52.55	471.84	0.00	0.00
		19	**shelt**	**mean**	**176.71**	**15.19**	**338.25**	**52.22**	**0.00**	**143.58**	**39.18**	**17.28**	**1079.26**	**0.00**	**0.00**
				sd	95.82	7.31	59.93	20.64	0.00	193.49	12.56	23.90	538.81	0.00	0.00
		20	**exp**	**mean**	**237.31**	**57.27**	**467.05**	**1080.53**	**0.00**	**249.43**	**219.52**	**19.37**	**2596.00**	**186.75**	**0.00**
				sd	88.87	45.18	600.24	1816.33	0.00	173.32	122.52	31.72	2459.33	186.75	0.00
		21	**exp**	**mean**	**81.51**	**185.99**	**266.00**	**2528.50**	**0.00**	**145.55**	**1433.68**	**454.13**	**5385.19**	**124.42**	**0.00**
				sd	19.37	195.46	402.88	1624.62	0.00	62.48	636.75	342.03	1506.94	124.42	0.00

					Bony Fishes									Sharks & Rays	
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	**Damselfishes**	**Emperors**	**Fusiliers**	**Parrotfishes**	**Drummers**	**Snappers**	**Surgeonfishes**	**Triggerfishes**	**TOTAL (all bony fishes)**	**Sharks**	**Rays**
	(Choiseul (con't)	**22**	**shelt**	**mean**	**460.27**	**137.70**	**104.92**	**2158.38**	**0.00**	**147.61**	**114.02**	**26.37**	**4565.72**	**0.00**	**0.00**
				sd	229.34	228.44	135.62	3421.19	0.00	169.68	52.18	32.29	3505.35	0.00	0.00
		23	**exp**	**mean**	**90.69**	**384.90**	**421.24**	**121.76**	**1.44**	**62.27**	**155.77**	**4.84**	**1427.94**	**0.00**	**0.00**
				sd	18.67	553.84	576.81	141.99	3.21	66.89	90.93	3.29	706.31	0.00	0.00
		24	**shelt**	**mean**	**307.42**	**10.82**	**25.08**	**18.08**	**0.00**	**1.75**	**50.49**	**1.70**	**680.17**	**0.00**	**0.00**
				sd	103.77	9.55	35.40	21.03	0.00	3.73	34.86	3.80	350.59	0.00	0.00
Guadalcanal	**Guadalcanal**	**42**	**exp**	**mean**	**77.61**	**41.25**	**0.00**	**87.86**	**0.00**	**55.00**	**751.52**	**35.02**	**1164.37**	**0.00**	**0.00**
				sd	98.13	58.94	0.00	127.49	0.00	102.40	1539.54	16.21	1609.26	0.00	0.00
		43	**shelt**	**mean**	**205.51**	**88.09**	**1.90**	**202.27**	**0.00**	**347.16**	**13.07**	**37.91**	**1009.89**	**27.93**	**135.27**
				sd	50.05	137.34	4.24	102.94	0.00	517.44	8.13	36.70	718.75	27.93	135.27
		65	**exp**	**mean**	**139.14**	**21.44**	**0.00**	**133.02**	**0.00**	**63.86**	**72.89**	**27.74**	**621.31**	**0.00**	**0.00**
				sd	134.65	15.01	0.00	94.88	0.00	95.34	33.32	25.99	325.96	0.00	0.00
		66	**exp**	**mean**	**18.22**	**0.00**	**43.11**	**40.97**	**0.00**	**0.04**	**84.13**	**8.44**	**231.87**	**555.44**	**0.00**
				sd	13.13	0.00	96.39	59.01	0.00	0.10	174.97	7.07	216.85	555.44	0.00
Isabel	**Arnavons**	**15**	**exp**	**mean**	**294.68**	**931.05**	**88.51**	**693.30**	**287.69**	**2449.47**	**380.07**	**93.28**	**5921.78**	**0.00**	**0.00**
				sd	114.40	1297.74	138.51	817.10	393.94	3421.32	143.98	128.95	6047.47	0.00	0.00
		16	**shelt**	**mean**	**616.76**	**299.41**	**45.67**	**430.22**	**0.00**	**213.32**	**150.39**	**9.28**	**2420.67**	**23.39**	**0.00**
				sd	217.22	261.80	53.63	510.49	0.00	172.54	219.14	10.78	1280.55	23.39	0.00
Isabel	**Isabel**	**3**	**exp**	**mean**	**105.83**	**13.23**	**208.11**	**10.66**	**234.63**	**0.00**	**173.72**	**5.05**	**858.55**	**0.00**	**0.00**
				sd	48.92	28.14	44.39	5.32	452.96	0.00	119.80	2.03	469.97	0.00	0.00
		4	**shelt**	**mean**	**102.33**	**10.75**	**411.54**	**28.68**	**174.72**	**801.27**	**17.20**	**11.85**	**1762.26**	**0.00**	**0.00**
				sd	24.47	11.95	439.94	24.87	242.52	1166.39	29.87	13.77	1784.42	0.00	0.00
		5	**exp**	**mean**	**94.10**	**287.29**	**35.36**	**15.77**	**0.00**	**1292.28**	**517.11**	**100.02**	**2604.53**	**0.00**	**0.00**
				sd	40.23	582.61	69.07	14.96	0.00	2878.33	302.75	142.53	3646.34	0.00	0.00
		6	**shelt**	**mean**	**83.50**	**13.39**	**20.23**	**25.78**	**0.00**	**32.62**	**90.96**	**5.70**	**352.52**	**0.00**	**0.00**
				sd	33.05	27.60	45.24	13.92	0.00	66.72	90.93	5.94	248.79	0.00	0.00
		7	**exp**	**mean**	**86.00**	**54.15**	**536.37**	**1179.45**	**220.60**	**839.11**	**137.14**	**41.88**	**3549.35**	**0.00**	**0.00**
				sd	40.42	91.03	770.62	943.85	341.60	408.66	95.35	64.26	2323.11	0.00	0.00
		8	**shelt**	**mean**	**241.85**	**5.45**	**118.57**	**17.85**	**10.19**	**141.70**	**124.90**	**7.96**	**715.22**	**0.00**	**0.00**
				sd	125.90	7.05	169.25	18.95	22.79	178.69	41.72	10.01	457.31	0.00	0.00

					Bony Fishes									Sharks & Rays	
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	**Damselfishes**	**Emperors**	**Fusiliers**	**Parrotfishes**	**Drummers**	**Snappers**	**Surgeonfishes**	**Triggerfishes**	**TOTAL (all bony fishes)**	**Sharks**	**Rays**
	Isabel (con't)	**9**	**exp**	**mean**	**273.84**	**0.73**	**5.72**	**53.80**	**0.00**	**13.74**	**179.78**	**1.54**	**624.84**	**0.00**	**0.00**
				sd	36.97	1.08	12.79	30.73	0.00	26.68	120.73	1.27	185.02	0.00	0.00
		10	**shelt**	**mean**	**279.76**	**8.24**	**14.47**	**35.26**	**0.00**	**0.43**	**43.08**	**0.47**	**456.87**	**0.00**	**0.00**
				sd	99.85	12.50	26.17	41.84	0.00	0.96	35.56	0.68	152.48	0.00	0.00
		11	**exp**	**mean**	**142.51**	**535.03**	**405.12**	**1372.57**	**0.00**	**1754.08**	**986.49**	**2428.45**	**7885.53**	**0.00**	**0.00**
				sd	47.90	929.74	330.32	1510.47	0.00	1268.99	936.45	1732.02	2282.92	0.00	0.00
		12	**shelt**	**mean**	**134.70**	**8.59**	**20.97**	**31.79**	**0.00**	**6.11**	**16.38**	**12.76**	**287.51**	**0.00**	**0.00**
				sd	53.29	4.41	45.65	18.70	0.00	8.48	25.71	23.90	116.61	0.00	0.00
		13	**exp**	**mean**	**73.98**	**54.66**	**144.46**	**142.04**	**0.00**	**18.12**	**200.90**	**7.10**	**853.99**	**0.00**	**0.00**
				sd	23.62	85.83	323.02	244.08	0.00	23.55	230.82	6.08	796.48	0.00	0.00
		14	**shelt**	**mean**	**299.58**	**204.60**	**618.33**	**68.31**	**0.00**	**32.09**	**267.26**	**20.29**	**1726.02**	**0.00**	**0.00**
				sd	159.26	285.31	781.46	101.79	0.00	16.05	473.23	28.78	1312.28	0.00	0.00
Makira	**Makira**	**44**	**exp**	**mean**	**67.54**	**1424.59**	**42.15**	**1900.76**	**1856.13**	**3894.63**	**115.62**	**12.18**	**9422.92**	**0.00**	**0.00**
				sd	26.64	2632.75	94.25	2602.50	2716.37	8162.98	70.05	25.63	10238.68	0.00	0.00
		45	**shelt**	**mean**	**229.68**	**9.50**	**74.65**	**234.66**	**0.00**	**0.00**	**183.39**	**2.88**	**881.50**	**0.00**	**0.00**
				sd	72.23	11.91	90.88	192.22	0.00	0.00	363.53	2.77	399.34	0.00	0.00
		46	**exp**	**mean**	**90.85**	**263.70**	**109.32**	**113.50**	**2.87**	**655.33**	**114.34**	**7.80**	**1448.69**	**41.47**	**0.00**
				sd	50.32	380.23	152.86	148.57	6.42	1256.49	40.07	6.83	1288.40	41.47	0.00
		47	**shelt**	**mean**	**128.69**	**2.83**	**101.75**	**12.33**	**0.00**	**34.16**	**8.49**	**8.28**	**656.14**	**1289.05**	**0.00**
				sd	70.06	4.54	106.88	18.21	0.00	35.38	7.22	13.95	607.47	1095.58	0.00
Makira	**Three Sisters**	**48**	**exp**	**mean**	**169.63**	**26.66**	**0.00**	**88.98**	**0.00**	**109.27**	**97.44**	**4.30**	**609.18**	**0.00**	**0.00**
				sd	87.87	18.04	0.00	72.91	0.00	197.14	34.56	3.58	196.41	0.00	0.00
		49	**shelt**	**mean**	**245.02**	**34.71**	**352.06**	**62.77**	**16.79**	**18.83**	**57.99**	**127.14**	**1037.36**	**0.00**	**0.00**
				sd	134.54	35.59	787.22	41.82	37.55	22.18	51.91	147.77	739.79	0.00	0.00
Makira	**Ugi**	**50**	**exp**	**mean**	**144.18**	**140.09**	**328.88**	**431.06**	**0.00**	**803.38**	**544.05**	**82.53**	**2740.58**	**0.00**	**0.00**
				sd	99.32	211.57	328.37	452.21	0.00	1363.05	587.16	97.63	2294.51	0.00	0.00
		51	**shelt**	**mean**	**207.23**	**91.38**	**419.08**	**60.21**	**0.00**	**100.86**	**100.08**	**15.72**	**1067.45**	**0.00**	**0.00**
				sd	75.97	164.14	422.56	40.22	0.00	138.67	27.68	30.27	569.21	0.00	0.00
Malaita	**Malaita**	**52**	**shelt**	**mean**	**149.70**	**2.32**	**196.70**	**73.73**	**0.00**	**27.35**	**43.62**	**16.50**	**590.48**	**0.00**	**0.00**
				sd	97.51	2.21	293.58	52.33	0.00	59.12	36.34	14.98	487.18	0.00	0.00

					Bony Fishes									Sharks & Rays	
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	**Damselfishes**	**Emperors**	**Fusiliers**	**Parrotfishes**	**Drummers**	**Snappers**	**Surgeonfishes**	**Triggerfishes**	**TOTAL (all bony fishes)**	**Sharks**	**Rays**
	Malaita (con't)	**53**	**exp**	**mean**	**103.44**	**90.54**	**0.00**	**152.79**	**91.48**	**196.93**	**82.62**	**7.07**	**869.44**	**0.00**	**0.00**
				sd	75.64	98.45	0.00	116.93	125.80	231.16	18.69	5.90	552.76	0.00	0.00
		54	**shelt**	**mean**	**140.10**	**2.49**	**59.44**	**63.99**	**0.00**	**3.62**	**14.34**	**6.89**	**373.88**	**0.00**	**0.00**
				sd	101.86	4.46	86.08	28.54	0.00	7.34	11.07	5.97	151.41	0.00	0.00
		55	**exp**	**mean**	**52.20**	**34.99**	**0.00**	**111.78**	**4.80**	**521.98**	**314.19**	**6.62**	**1759.42**	**0.00**	**22435.27**
				sd	18.22	65.89	0.00	79.34	10.74	608.87	183.19	4.55	1169.21	0.00	22435.27
		56	**exp**	**mean**	**146.14**	**21.89**	**372.16**	**83.06**	**0.00**	**4.76**	**78.49**	**4.60**	**881.07**	**0.00**	**0.00**
				sd	130.95	18.56	264.41	70.44	0.00	4.08	86.21	5.98	223.17	0.00	0.00
		57	**shelt**	**mean**	**398.91**	**5.36**	**125.54**	**91.45**	**0.00**	**135.97**	**208.84**	**2.13**	**1068.51**	**0.00**	**0.00**
				sd	249.10	8.18	253.74	111.84	0.00	251.05	123.20	2.33	567.61	0.00	0.00
		58	**exp**	**mean**	**73.11**	**52.58**	**136.26**	**298.00**	**61.31**	**282.36**	**275.15**	**19.28**	**1557.59**	**0.00**	**0.00**
				sd	17.27	66.59	203.21	434.93	137.10	459.86	138.16	39.13	1058.36	0.00	0.00
		59	**shelt**	**mean**	**145.92**	**49.50**	**12.49**	**273.37**	**0.00**	**27.86**	**170.03**	**3.40**	**816.21**	**0.00**	**0.00**
				sd	43.44	62.71	17.10	149.25	0.00	39.32	71.99	2.68	120.54	0.00	0.00
		60	**exp**	**mean**	**49.73**	**4.47**	**52.17**	**54.12**	**11.38**	**4.28**	**111.96**	**1.99**	**357.51**	**0.00**	**0.00**
				sd	25.95	3.32	60.22	30.63	18.47	4.92	44.78	1.42	84.93	0.00	0.00
		61	**shelt**	**mean**	**59.47**	**3.29**	**44.75**	**37.23**	**0.00**	**47.90**	**5.81**	**0.29**	**314.12**	**0.00**	**0.00**
				sd	81.60	6.05	62.13	64.69	0.00	107.11	6.97	0.65	394.05	0.00	0.00
Western	**New Georgia**	**29**	**exp**	**mean**	**0.00**	**40.97**	**0.00**	**1757.36**	**0.00**	**1953.68**	**3062.22**	**126.25**	**7104.23**	**388.12**	**0.00**
				sd	0.00	68.03	0.00	2673.76	0.00	2295.36	5128.26	117.11	6421.35	323.93	0.00
		30	**exp**	**mean**	**0.00**	**153.81**	**0.00**	**19.89**	**25.05**	**177.40**	**49.36**	**37.90**	**534.16**	**0.00**	**0.00**
				sd	0.00	328.03	0.00	28.35	56.00	219.71	43.95	49.23	496.12	0.00	0.00
		31	**shelt**	**mean**	**115.89**	**20.32**	**331.16**	**68.87**	**0.00**	**6.35**	**110.14**	**23.75**	**1764.58**	**22.54**	**0.00**
				sd	25.15	13.75	222.66	26.12	0.00	10.07	28.57	15.85	2334.05	22.54	0.00
		32	**exp**	**mean**	**71.37**	**122.30**	**152.49**	**43.25**	**0.00**	**2083.54**	**259.33**	**70.42**	**2927.44**	**991.21**	**0.00**
				sd	47.21	174.74	310.71	45.58	0.00	2482.72	202.09	92.13	2567.89	991.21	0.00
		33	**exp**	**mean**	**75.13**	**81.86**	**732.91**	**772.46**	**278.52**	**540.23**	**45.97**	**88.05**	**2831.63**	**0.00**	**0.00**
				sd	19.58	133.09	395.57	1381.50	243.73	517.99	23.26	178.44	1781.80	0.00	0.00
		34	**exp**	**mean**	**113.53**	**143.52**	**132.02**	**268.54**	**0.00**	**121.05**	**235.34**	**11.52**	**1251.39**	**0.00**	**0.00**
				sd	59.91	156.08	125.12	108.38	0.00	119.32	298.79	16.93	562.54	0.00	0.00

					Bony Fishes								Sharks & Rays	
Province	Island	Site	Exposure	Mean Biomass (kg/ha)	Damselfishes	Emperors	Fusiliers	Parrotfishes	Drummers	Snappers	Surgeonfishes	Triggerfishes	TOTAL (all bony fishes)	Sharks	Rays
	New Georgia (con't)	35	shelt	mean	**161.45**	**6.91**	**1527.79**	**83.01**	**0.00**	**181.93**	**381.28**	**1.77**	**2505.59**	**107.81**	**0.00**
				sd	40.85	6.08	1561.91	160.91	0.00	397.89	705.24	2.32	1352.58	107.81	0.00
		36	exp	mean	**131.54**	**126.18**	**418.51**	**479.60**	**116.27**	**77.78**	**104.36**	**139.38**	**1728.80**	**563.04**	**0.00**
				sd	28.57	178.53	510.05	667.42	256.00	93.62	46.22	222.15	1269.09	553.59	0.00
		37	shelt	mean	**220.00**	**68.29**	**807.86**	**357.35**	**0.00**	**163.70**	**105.53**	**101.23**	**3139.74**	**1155.24**	**0.00**
				sd	74.49	96.56	1089.58	455.44	0.00	247.95	35.78	149.17	1942.87	963.38	0.00
	Shortlands	25	exp	mean	**174.28**	**80.87**	**88.45**	**209.22**	**0.00**	**241.62**	**675.13**	**33.04**	**1698.04**	**5.00**	**0.00**
				sd	99.04	141.02	96.07	155.07	0.00	294.08	421.14	49.12	789.01	5.00	0.00
		26	shelt	mean	**221.79**	**13.67**	**247.67**	**1326.90**	**0.00**	**40.69**	**108.43**	**14.12**	**2118.79**	**0.00**	**0.00**
				sd	124.76	9.08	148.18	2756.48	0.00	45.13	31.23	13.60	2809.14	0.00	0.00
		27	exp	mean	**0.00**	**5090.59**	**189.67**	**2464.48**	**0.00**	**10357.05**	**3750.86**	**8.39**	**21863.35**	**343.17**	**0.00**
				sd	0.00	5555.93	424.11	2256.92	0.00	11100.92	2228.50	10.63	14860.17	210.49	0.00
		28	shelt	mean	**0.00**	**7.94**	**15.48**	**0.00**	**0.00**	**3.19**	**0.06**	**13.00**	**53.94**	**142.40**	**0.00**
				sd	0.00	15.65	30.29	0.00	0.00	4.99	0.13	17.42	25.68	110.83	0.00

Appendix 4. Mean density of key families of food fishes on sheltered and exposed reefs slopes (10m) in the Solomon Islands.

					Bony Fishes								Sharks & Rays	
Province	Island	Site	Exposure	Mean Density (per ha)	Emperors	Fusiliers	Goatfishes	Drummers	Snappers	Surgeonfishes	Triggerfishes	Parrotfishes	Sharks	Rays
Central	**Floridas**	**1**	**shelt**	**mean**	**74.67**	**0.00**	**0.00**	**0.00**	**80.00**	**309.33**	**264.00**	**112.00**	**0.00**	**0.00**
				sd	145.63	0.00	0.00	0.00	116.62	188.42	216.52	117.98	0.00	0.00
		2	**exp**	**mean**	**0.00**	**1333.33**	**13.33**	**0.00**	**280.00**	**1410.67**	**184.00**	**0.00**	**0.00**	**0.00**
				sd	0.00	1491.93	29.81	0.00	234.95	783.35	147.09	0.00	0.00	0.00
		62	**exp**	**mean**	**0.00**	**480.00**	**29.33**	**0.00**	**40.00**	**506.67**	**48.00**	**29.33**	**0.00**	**0.00**
				sd	0.00	715.54	46.57	0.00	59.63	357.27	86.72	40.44	0.00	0.00
		63	**shelt**	**mean**	**24.00**	**792.00**	**16.00**	**0.00**	**0.00**	**144.00**	**93.33**	**0.00**	**0.00**	**0.00**
				sd	21.91	1062.22	21.91	0.00	0.00	28.91	102.42	0.00	0.00	0.00
Central	**Russells**	**38**	**exp**	**mean**	**3277.33**	**2840.00**	**288.00**	**2589.33**	**9277.33**	**1138.67**	**117.33**	**250.67**	**16.00**	**0.00**
				sd	3708.98	4396.36	490.86	626.34	4883.67	1345.10	117.91	40.44	9.80	0.00
		39	**shelt**	**mean**	**269.33**	**0.00**	**80.00**	**0.00**	**184.00**	**445.33**	**29.33**	**552.00**	**0.00**	**0.00**
				sd	116.77	0.00	82.19	0.00	87.64	259.68	28.91	289.61	0.00	0.00
		40	**exp**	**mean**	**4058.67**	**0.00**	**416.00**	**0.00**	**448.00**	**960.00**	**186.67**	**285.33**	**0.00**	**0.00**
				sd	8300.98	0.00	757.15	0.00	274.00	449.10	58.88	278.82	0.00	0.00
		41	**shelt**	**mean**	**597.33**	**384.00**	**0.00**	**3869.33**	**5045.33**	**349.33**	**157.33**	**2778.67**	**16.00**	**0.00**
				sd	977.63	858.65	0.00	8607.44	10641.17	378.23	131.79	5256.22	9.80	0.00
Central	**Savo**	**64**	**exp**	**mean**	**1320.00**	**0.00**	**288.00**	**392.00**	**1269.33**	**941.33**	**112.00**	**0.00**	**0.00**	**0.00**
				sd	1100.18	0.00	343.39	876.54	905.07	688.10	111.00	0.00	0.00	0.00
Choiseul	**Choiseul**	**17**	**exp**	**mean**	**912.00**	**1360.00**	**154.67**	**128.00**	**7712.00**	**4306.67**	**205.33**	**1261.33**	**0.00**	**0.00**
				sd	650.24	2616.87	94.56	286.22	3311.21	1248.32	116.08	1168.08	0.00	0.00
		18	**shelt**	**mean**	**608.00**	**712.00**	**120.00**	**0.00**	**1346.67**	**618.67**	**160.00**	**8.00**	**0.00**	**0.00**
				sd	587.47	618.64	191.83	0.00	847.32	168.55	115.85	17.89	0.00	0.00
		19	**shelt**	**mean**	**168.00**	**6053.33**	**136.00**	**0.00**	**386.67**	**493.33**	**133.33**	**8.00**	**0.00**	**0.00**
				sd	57.81	2165.59	239.33	0.00	306.09	121.11	38.87	17.89	0.00	0.00
		20	**exp**	**mean**	**381.33**	**3200.00**	**21.33**	**0.00**	**1325.33**	**1384.00**	**85.33**	**1786.67**	**8.00**	**0.00**
				sd	417.14	4604.35	30.70	0.00	1409.67	700.12	68.38	2787.83	8.00	0.00

					Bony Fishes							Sharks & Rays	
Province	Island	Site	Exposure	Mean Density (per ha)	Emperors	Fusiliers	Goatfishes	Drummers	Snappers	Surgeonfishes	Triggerfishes	Parrotfishes	Sharks	Rays
	Choiseul (con't)	21	exp	**mean**	**1280.00**	**0.00**	**362.67**	**0.00**	**421.33**	**14744.00**	**304.00**	**96.00**	**8.00**	**0.00**
				sd	1255.49	0.00	251.82	0.00	243.78	5751.49	176.48	49.35	8.00	0.00
		22	shelt	**mean**	**413.33**	**0.00**	**2069.33**	**0.00**	**461.33**	**744.00**	**197.33**	**136.00**	**0.00**	**0.00**
				sd	511.82	0.00	3375.50	0.00	483.29	414.88	23.85	168.76	0.00	0.00
		23	exp	**mean**	**1450.67**	**1064.00**	**138.67**	**8.00**	**192.00**	**1602.67**	**106.67**	**130.67**	**0.00**	**0.00**
				sd	1888.76	1571.14	188.00	17.89	86.72	581.52	32.66	105.58	0.00	0.00
		24	shelt	**mean**	**101.33**	**320.00**	**216.00**	**0.00**	**16.00**	**400.00**	**24.00**	**13.33**	**0.00**	**0.00**
				sd	74.60	452.55	121.98	0.00	35.78	156.35	53.67	29.81	0.00	0.00
	Guadalcanal	42	exp	**mean**	**304.00**	**0.00**	**240.00**	**0.00**	**469.33**	**1997.33**	**440.00**	**0.00**	**0.00**	**0.00**
				sd	496.87	0.00	254.56	0.00	795.17	3571.96	283.78	0.00	0.00	0.00
		43	shelt	**mean**	**549.33**	**24.00**	**13.33**	**0.00**	**1200.00**	**274.67**	**584.00**	**0.00**	**8.00**	**8.00**
				sd	428.99	53.67	29.81	0.00	1694.23	161.82	582.13	0.00	8.00	8.00
		65	exp	**mean**	**112.00**	**0.00**	**237.33**	**0.00**	**200.00**	**506.67**	**112.00**	**8.00**	**0.00**	**0.00**
				sd	17.89	0.00	220.99	0.00	165.19	304.05	92.66	17.89	0.00	0.00
		66	exp	**mean**	**0.00**	**0.00**	**146.67**	**0.00**	**21.33**	**946.67**	**176.00**	**0.00**	**13.33**	**0.00**
				sd	0.00	0.00	327.96	0.00	47.70	1863.33	104.31	0.00	13.33	0.00
	Isabel	Arnavons	15	exp	**mean**	**2965.33**	**1120.00**	**90.67**	**1200.00**	**8274.67**	**2312.00**	**261.33**	**1314.67**	**0.00**	**0.00**
					sd	2493.45	1752.71	100.40	1788.85	8485.19	872.78	157.93	1716.14	0.00	0.00
			16	shelt	**mean**	**1088.00**	**373.33**	**58.67**	**0.00**	**733.33**	**1050.67**	**146.67**	**557.33**	**8.00**	**0.00**
					sd	1138.37	695.38	82.52	0.00	565.29	968.77	151.73	583.89	8.00	0.00
	Isabel	Isabel	3	exp	**mean**	**80.00**	**3061.33**	**16.00**	**576.00**	**0.00**	**1981.33**	**154.67**	**0.00**	**0.00**	**0.00**
					sd	138.56	802.58	35.78	1111.97	0.00	1443.35	57.81	0.00	0.00	0.00
			4	shelt	**mean**	**109.33**	**4069.33**	**0.00**	**432.00**	**6093.33**	**80.00**	**146.67**	**0.00**	**0.00**	**0.00**
					sd	62.11	4102.63	0.00	597.60	8651.22	119.26	136.95	0.00	0.00	0.00
			5	exp	**mean**	**2128.00**	**720.00**	**778.67**	**0.00**	**2866.67**	**4642.67**	**370.67**	**0.00**	**0.00**	**0.00**
					sd	1617.75	995.99	1089.53	0.00	6291.06	3583.26	306.43	0.00	0.00	0.00
			6	shelt	**mean**	**133.33**	**504.00**	**0.00**	**0.00**	**290.67**	**840.00**	**304.00**	**37.33**	**0.00**	**0.00**
					sd	109.95	1126.98	0.00	0.00	303.23	728.53	128.37	51.98	0.00	0.00

					Bony Fishes								Sharks & Rays	
Province	**Island**	**Site**	**Exposure**	**Mean Density (per ha)**	**Emperors**	**Fusiliers**	**Goatfishes**	**Drummers**	**Snappers**	**Surgeonfishes**	**Triggerfishes**	**Parrotfishes**	**Sharks**	**Rays**
		7	**exp**	**mean**	**298.67**	**3786.67**	**32.00**	**893.33**	**2469.33**	**1218.67**	**144.00**	**584.00**	**0.00**	**0.00**
				sd	528.53	5582.19	71.55	1266.32	1982.22	540.01	180.22	763.47	0.00	0.00
		8	**shelt**	**mean**	**96.00**	**2562.67**	**16.00**	**16.00**	**341.33**	**2104.00**	**32.00**	**0.00**	**0.00**	**0.00**
				sd	104.31	2639.70	35.78	35.78	412.32	654.79	33.47	0.00	0.00	0.00
		9	**exp**	**mean**	**48.00**	**240.00**	**82.67**	**0.00**	**16.00**	**1784.00**	**64.00**	**0.00**	**0.00**	**0.00**
				sd	52.15	536.66	109.30	0.00	35.78	1172.33	53.67	0.00	0.00	0.00
		10	**shelt**	**mean**	**277.33**	**141.33**	**34.67**	**0.00**	**8.00**	**464.00**	**16.00**	**0.00**	**0.00**	**0.00**
				sd	357.45	196.32	77.52	0.00	17.89	416.06	21.91	0.00	0.00	0.00
		11	**exp**	**mean**	**997.33**	**6506.67**	**29.33**	**0.00**	**6253.33**	**3434.67**	**1848.00**	**765.33**	**0.00**	**0.00**
				sd	1374.87	3960.25	65.59	0.00	4065.84	1205.97	1288.22	963.03	0.00	0.00
		12	**shelt**	**mean**	**170.67**	**466.67**	**42.67**	**0.00**	**16.00**	**77.33**	**56.00**	**178.67**	**0.00**	**0.00**
				sd	94.00	689.61	45.61	0.00	21.91	116.77	21.91	100.93	0.00	0.00
		13	**exp**	**mean**	**600.00**	**4320.00**	**112.00**	**0.00**	**53.33**	**874.67**	**128.00**	**120.00**	**0.00**	**0.00**
				sd	894.43	9659.81	168.29	0.00	41.10	464.34	86.72	268.33	0.00	0.00
		14	**shelt**	**mean**	**1018.67**	**3781.33**	**13.33**	**0.00**	**189.33**	**1717.33**	**256.00**	**69.33**	**0.00**	**0.00**
				sd	831.31	4107.98	29.81	0.00	120.15	2246.39	101.72	71.43	0.00	0.00
Makira	**Makira**	**44**	**exp**	**mean**	**2696.00**	**0.00**	**168.00**	**4229.33**	**3458.67**	**837.33**	**45.33**	**1016.00**	**0.00**	**0.00**
				sd	3356.38	0.00	179.78	5648.98	5631.80	397.03	62.25	1116.64	0.00	0.00
		45	**shelt**	**mean**	**85.33**	**1120.00**	**565.33**	**0.00**	**0.00**	**456.00**	**56.00**	**258.67**	**0.00**	**0.00**
				sd	112.59	1559.49	746.94	0.00	0.00	858.86	35.78	294.33	0.00	0.00
		46	**exp**	**mean**	**405.33**	**320.00**	**34.67**	**16.00**	**1405.33**	**1704.00**	**96.00**	**8.00**	**24.00**	**0.00**
				sd	585.95	715.54	57.81	35.78	2389.73	235.02	100.40	17.89	24.00	0.00
		47	**shelt**	**mean**	**56.00**	**0.00**	**264.00**	**0.00**	**514.67**	**66.67**	**101.33**	**0.00**	**16.00**	**0.00**
				sd	104.31	0.00	119.78	0.00	512.04	81.65	94.56	0.00	9.80	0.00
Makira	**Three Sisters**	**48**	**exp**	**mean**	**176.00**	**0.00**	**117.33**	**0.00**	**429.33**	**1365.33**	**186.67**	**13.33**	**0.00**	**0.00**
				sd	175.73	0.00	175.22	0.00	502.12	760.44	129.27	29.81	0.00	0.00
		49	**shelt**	**mean**	**253.33**	**0.00**	**125.33**	**160.00**	**74.67**	**637.33**	**261.33**	**165.33**	**0.00**	**0.00**
				sd	290.90	0.00	158.77	357.77	123.86	190.30	123.86	166.16	0.00	0.00

					Bony Fishes								Sharks & Rays	
Province	Island	Site	Exposure	Mean Density (per ha)	Emperors	Fusiliers	Goatfishes	Drummers	Snappers	Surgeonfishes	Triggerfishes	Parrotfishes	Sharks	Rays
Makira	**Ugi**	**50**	**exp**	**mean**	**618.67**	**0.00**	**328.00**	**0.00**	**1026.67**	**1098.67**	**322.67**	**104.00**	**0.00**	**0.00**
				sd	1235.28	0.00	325.18	0.00	1338.06	593.04	158.72	151.26	0.00	0.00
		51	**shelt**	**mean**	**933.33**	**0.00**	**88.00**	**0.00**	**181.33**	**882.67**	**277.33**	**0.00**	**0.00**	**0.00**
				sd	1762.37	0.00	121.33	0.00	232.97	318.25	383.37	0.00	0.00	0.00
Malaita	**Malaita**	**52**	**shelt**	**mean**	**56.00**	**1360.00**	**101.33**	**0.00**	**104.00**	**434.67**	**282.67**	**8.00**	**0.00**	**0.00**
				sd	56.88	2109.03	60.81	0.00	144.35	391.31	228.11	17.89	0.00	0.00
		53	**exp**	**mean**	**453.33**	**0.00**	**21.33**	**202.67**	**800.00**	**944.00**	**152.00**	**61.33**	**0.00**	**0.00**
				sd	302.14	0.00	30.70	303.37	1213.26	267.23	103.54	82.52	0.00	0.00
		54	**shelt**	**mean**	**45.33**	**880.00**	**226.67**	**0.00**	**16.00**	**109.33**	**136.00**	**0.00**	**0.00**	**0.00**
				sd	70.30	1213.26	44.22	0.00	35.78	80.77	111.71	0.00	0.00	0.00
		55	**exp**	**mean**	**85.33**	**0.00**	**26.67**	**13.33**	**1069.33**	**1696.00**	**138.67**	**85.33**	**0.00**	**8.00**
				sd	134.20	0.00	36.51	29.81	1336.11	877.24	82.52	129.82	0.00	8.00
		56	**exp**	**mean**	**232.00**	**2712.00**	**37.33**	**0.00**	**53.33**	**1661.33**	**146.67**	**0.00**	**0.00**	**0.00**
				sd	156.23	2104.93	54.49	0.00	49.89	2141.73	121.11	0.00	0.00	0.00
		57	**shelt**	**mean**	**69.33**	**0.00**	**34.67**	**0.00**	**160.00**	**1912.00**	**82.67**	**66.67**	**0.00**	**0.00**
				sd	99.51	0.00	57.81	0.00	224.50	1174.15	67.59	115.47	0.00	0.00
		58	**exp**	**mean**	**349.33**	**0.00**	**376.00**	**104.00**	**829.33**	**2088.00**	**93.33**	**53.33**	**0.00**	**0.00**
				sd	144.35	0.00	542.62	232.55	775.48	764.41	95.68	73.64	0.00	0.00
		59	**shelt**	**mean**	**237.33**	**80.00**	**104.00**	**0.00**	**109.33**	**1682.67**	**160.00**	**8.00**	**0.00**	**0.00**
				sd	331.11	178.89	82.95	0.00	166.64	551.39	56.57	17.89	0.00	0.00
		60	**exp**	**mean**	**80.00**	**480.00**	**85.33**	**21.33**	**61.33**	**722.67**	**32.00**	**0.00**	**0.00**	**0.00**
				sd	61.82	715.54	38.41	30.70	48.63	226.16	33.47	0.00	0.00	0.00
		61	**shelt**	**mean**	**69.33**	**320.00**	**133.33**	**0.00**	**93.33**	**93.33**	**13.33**	**8.00**	**0.00**	**0.00**
				sd	133.80	715.54	230.94	0.00	208.70	89.44	29.81	17.89	0.00	0.00
Western	**New Georgia**	**29**	**exp**	**mean**	**168.00**	**0.00**	**0.00**	**0.00**	**6216.00**	**5424.00**	**200.00**	**1776.00**	**16.00**	**0.00**
				sd	353.72	0.00	0.00	0.00	7282.34	7383.58	162.48	2515.01	9.80	0.00
		30	**exp**	**mean**	**264.00**	**0.00**	**16.00**	**16.00**	**344.00**	**216.00**	**120.00**	**16.00**	**0.00**	**0.00**
				sd	480.50	0.00	21.91	35.78	508.02	143.11	80.00	21.91	0.00	0.00

					Bony Fishes								Sharks & Rays	
Province	**Island**	**Site**	**Exposure**	**Mean Density (per ha)**	**Emperors**	**Fusiliers**	**Goatfishes**	**Drummers**	**Snappers**	**Surgeonfishes**	**Triggerfishes**	**Parrotfishes**	**Sharks**	**Rays**
	New Georgia (con't)	**31**	**shelt**	**mean**	**242.67**	**5040.00**	**133.33**	**0.00**	**77.33**	**1258.67**	**144.00**	**53.33**	**8.00**	**0.00**
				sd	166.37	2523.49	45.22	0.00	110.92	454.27	60.66	86.92	8.00	0.00
		32	**exp**	**mean**	**237.33**	**480.00**	**61.33**	**0.00**	**15533.33**	**1394.67**	**106.67**	**16.00**	**13.33**	**0.00**
				sd	307.30	1073.31	116.08	0.00	19692.46	527.52	99.33	35.78	13.33	0.00
		33	**exp**	**mean**	**541.33**	**6720.00**	**589.33**	**1520.00**	**3616.00**	**312.00**	**152.00**	**2354.67**	**0.00**	**0.00**
				sd	685.18	3871.95	506.35	1396.28	4195.01	135.19	165.89	3770.32	0.00	0.00
		34	**exp**	**mean**	**1642.67**	**3160.00**	**1741.33**	**0.00**	**1202.67**	**2221.33**	**64.00**	**144.00**	**0.00**	**0.00**
				sd	1948.98	3106.12	3589.97	0.00	1051.96	1430.57	66.93	118.66	0.00	0.00
		35	**shelt**	**mean**	**96.00**	**16800.00**	**74.67**	**0.00**	**1160.00**	**1432.00**	**45.33**	**72.00**	**24.00**	**0.00**
				sd	72.66	17064.58	50.42	0.00	2504.72	1698.35	41.74	161.00	24.00	0.00
		36	**exp**	**mean**	**1418.67**	**8112.00**	**133.33**	**648.00**	**336.00**	**2336.00**	**181.33**	**1040.00**	**21.33**	**0.00**
				sd	1987.57	7237.59	88.44	1426.72	294.45	539.17	108.98	1781.91	13.73	0.00
		37	**shelt**	**mean**	**794.67**	**5056.00**	**26.67**	**0.00**	**853.33**	**994.67**	**261.33**	**125.33**	**21.33**	**0.00**
				sd	1099.64	7788.69	59.63	0.00	1169.43	217.58	199.69	236.38	13.73	0.00
Western	**Shortlands**	**25**	**exp**	**mean**	**456.00**	**266.67**	**13.33**	**0.00**	**3717.33**	**4512.00**	**72.00**	**13.33**	**8.00**	**0.00**
				sd	625.84	596.28	29.81	0.00	5447.34	2367.49	111.40	29.81	8.00	0.00
		26	**shelt**	**mean**	**173.33**	**720.00**	**117.33**	**0.00**	**114.67**	**1106.67**	**125.33**	**261.33**	**0.00**	**0.00**
				sd	126.84	715.54	104.73	0.00	100.04	292.88	20.22	584.36	0.00	0.00
		27	**exp**	**mean**	**7016.00**	**2400.00**	**0.00**	**0.00**	**14896.00**	**7888.00**	**168.00**	**5392.00**	**16.00**	**0.00**
				sd	7984.46	5366.56	0.00	0.00	9074.39	4656.47	127.75	5037.73	9.80	0.00
		28	**shelt**	**mean**	**64.00**	**736.00**	**48.00**	**0.00**	**184.00**	**24.00**	**208.00**	**0.00**	**16.00**	**0.00**
				sd	87.64	718.67	65.73	0.00	368.35	53.67	121.33	0.00	9.80	0.00

Appendix 5. Mean density of each genera of food fishes in two key families (snappers and groupers) of reef fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

					snappers				groupers				
Province	**Island**	**Site**	**Exposure**	**Mean Density (per ha)**	***Aprion***	***Lutjanus***	***Macolor***	***Symphorichthys***	***Cephalopholis***	***Cromileptes***	***Epinephelus***	***Plectropomus***	***Variola***
Central	**Floridas**	**1**	**shelt**	**mean**	**0.00**	**48.00**	**32.00**	**0.00**	**40.00**	**8.00**	**0.00**	**96.00**	**32.00**
				std	0.00	52.15	71.55	0.00	89.44	17.89	0.00	72.66	52.15
		2	**exp**	**mean**	**0.00**	**136.00**	**144.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**128.00**
				std	0.00	140.29	199.20	0.00	0.00	0.00	0.00	0.00	76.94
		62	**exp**	**mean**	**0.00**	**0.00**	**40.00**	**0.00**	**16.00**	**0.00**	**21.33**	**0.00**	**82.67**
				std	0.00	0.00	59.63	0.00	21.91	0.00	47.70	0.00	27.33
		63	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**64.00**	**0.00**
				std	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.67	0.00
Central	**Russells**	**38**	**exp**	**mean**	**0.00**	**7573.33**	**1704.00**	**0.00**	**13.33**	**0.00**	**0.00**	**48.00**	**0.00**
				std	0.00	4159.08	1852.79	0.00	29.81	0.00	0.00	71.55	0.00
		39	**shelt**	**mean**	**0.00**	**168.00**	**16.00**	**0.00**	**0.00**	**0.00**	**0.00**	**45.33**	**0.00**
				std	0.00	99.60	35.78	0.00	0.00	0.00	0.00	47.70	0.00
		40	**exp**	**mean**	**0.00**	**104.00**	**344.00**	**0.00**	**24.00**	**0.00**	**0.00**	**24.00**	**16.00**
				std	0.00	104.31	207.29	0.00	53.67	0.00	0.00	35.78	35.78
		41	**shelt**	**mean**	**0.00**	**4840.00**	**205.33**	**0.00**	**8.00**	**0.00**	**8.00**	**48.00**	**0.00**
				std	0.00	10755.54	158.77	0.00	17.89	0.00	17.89	65.73	0.00
Central	**Savo**	**64**	**exp**	**mean**	**0.00**	**861.33**	**408.00**	**0.00**	**45.33**	**0.00**	**0.00**	**0.00**	**0.00**
				std	0.00	951.99	853.16	0.00	70.30	0.00	0.00	0.00	0.00
Choiseul	**Choiseul**	**17**	**exp**	**mean**	**64.00**	**5821.33**	**1826.67**	**0.00**	**16.00**	**0.00**	**0.00**	**0.00**	**24.00**
				std	72.66	3414.03	1224.82	0.00	21.91	0.00	0.00	0.00	35.78
		18	**shelt**	**mean**	**8.00**	**808.00**	**530.67**	**0.00**	**45.33**	**0.00**	**0.00**	**8.00**	**0.00**
				std	17.89	534.71	365.93	0.00	38.41	0.00	0.00	17.89	0.00
		19	**shelt**	**mean**	**0.00**	**216.00**	**170.67**	**0.00**	**82.67**	**0.00**	**13.33**	**0.00**	**8.00**
				std	0.00	209.00	128.72	0.00	55.30	0.00	29.81	0.00	17.89
		20	**exp**	**mean**	**0.00**	**805.33**	**520.00**	**0.00**	**21.33**	**0.00**	**0.00**	**32.00**	**8.00**
				std	0.00	1565.08	382.62	0.00	47.70	0.00	0.00	43.82	17.89

					snappers				groupers				
Province	**Island**	**Site**	**Exposure**	**Mean Density (per ha)**	***Aprion***	***Lutjanus***	***Macolor***	***Symphorichthys***	***Cephalopholis***	***Cromileptes***	***Epinephelus***	***Plectropomus***	***Variola***
	Choiseul (con't)	**21**	**exp**	**mean**	**13.33**	**0.00**	**408.00**	**0.00**	**29.33**	**0.00**	**0.00**	**0.00**	**64.00**
				std	29.81	0.00	261.04	0.00	28.91	0.00	0.00	0.00	60.66
		22	**shelt**	**mean**	**0.00**	**141.33**	**320.00**	**0.00**	**104.00**	**0.00**	**0.00**	**0.00**	**16.00**
				std	0.00	171.68	322.21	0.00	137.40	0.00	0.00	0.00	21.91
		23	**exp**	**mean**	**0.00**	**120.00**	**72.00**	**0.00**	**40.00**	**0.00**	**0.00**	**13.33**	**16.00**
				std	0.00	129.61	52.15	0.00	69.28	0.00	0.00	29.81	21.91
		24	**shelt**	**mean**	**0.00**	**0.00**	**8.00**	**8.00**	**21.33**	**0.00**	**16.00**	**8.00**	**0.00**
				std	0.00	0.00	17.89	17.89	47.70	0.00	21.91	17.89	0.00
Guadalcanal	**Guadalcanal**	**42**	**exp**	**mean**	**0.00**	**408.00**	**61.33**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**64.00**
				std	0.00	805.18	41.74	0.00	0.00	0.00	0.00	0.00	104.31
		43	**shelt**	**mean**	**0.00**	**1008.00**	**192.00**	**0.00**	**32.00**	**0.00**	**0.00**	**80.00**	**0.00**
				std	0.00	1358.35	429.33	0.00	33.47	0.00	0.00	61.82	0.00
		65	**exp**	**mean**	**0.00**	**48.00**	**152.00**	**0.00**	**0.00**	**0.00**	**26.67**	**0.00**	**16.00**
				std	0.00	65.73	195.64	0.00	0.00	0.00	36.51	0.00	21.91
		66	**exp**	**mean**	**0.00**	**0.00**	**21.33**	**0.00**	**34.67**	**0.00**	**0.00**	**0.00**	**0.00**
				std	0.00	0.00	47.70	0.00	77.52	0.00	0.00	0.00	0.00
Isabel	**Arnavons**	**15**	**exp**	**mean**	**64.00**	**7069.33**	**1141.33**	**0.00**	**8.00**	**0.00**	**21.33**	**133.33**	**173.33**
				std	60.66	6998.99	1550.53	0.00	17.89	0.00	30.70	151.73	160.28
		16	**shelt**	**mean**	**32.00**	**322.67**	**378.67**	**0.00**	**24.00**	**0.00**	**0.00**	**72.00**	**32.00**
				std	43.82	345.95	360.57	0.00	53.67	0.00	0.00	99.60	52.15
Isabel	**Isabel**	**3**	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**40.00**	**0.00**	**0.00**	**0.00**	**8.00**
				std	0.00	0.00	0.00	0.00	56.57	0.00	0.00	0.00	17.89
		4	**shelt**	**mean**	**0.00**	**6093.33**	**0.00**	**0.00**	**58.67**	**0.00**	**0.00**	**13.33**	**0.00**
				std	0.00	8651.22	0.00	0.00	110.19	0.00	0.00	29.81	0.00
		5	**exp**	**mean**	**0.00**	**2528.00**	**338.67**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
				std	0.00	5608.17	685.18	0.00	0.00	0.00	0.00	0.00	0.00
		6	**shelt**	**mean**	**0.00**	**64.00**	**218.67**	**8.00**	**37.33**	**0.00**	**0.00**	**0.00**	**16.00**
				std	0.00	60.66	239.00	17.89	37.00	0.00	0.00	0.00	21.91

					snappers				groupers				
Province	Island	Site	Exposure	Mean Density (per ha)	*Aprion*	*Lutjanus*	*Macolor*	*Symphorichthys*	*Cephalopholis*	*Cromileptes*	*Epinephelus*	*Plectropomus*	*Variola*
	Isabel (con't)	7	exp	**mean**	**96.00**	**1616.00**	**757.33**	**0.00**	**0.00**	**0.00**	**0.00**	**8.00**	**0.00**
				std	214.66	1994.11	464.89	0.00	0.00	0.00	0.00	17.89	0.00
		8	shelt	**mean**	**0.00**	**56.00**	**285.33**	**0.00**	**8.00**	**0.00**	**0.00**	**21.33**	**0.00**
				std	0.00	66.93	350.06	0.00	17.89	0.00	0.00	30.70	0.00
		9	exp	**mean**	**0.00**	**0.00**	**16.00**	**0.00**	**0.00**	**0.00**	**0.00**	**21.33**	**0.00**
				std	0.00	0.00	35.78	0.00	0.00	0.00	0.00	30.70	0.00
		10	shelt	**mean**	**0.00**	**8.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
				std	0.00	17.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		11	exp	**mean**	**0.00**	**6085.33**	**168.00**	**0.00**	**13.33**	**0.00**	**13.33**	**45.33**	**8.00**
				std	0.00	3987.10	230.48	0.00	29.81	0.00	29.81	62.25	17.89
		12	shelt	**mean**	**0.00**	**8.00**	**0.00**	**8.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
				std	0.00	17.89	0.00	17.89	0.00	0.00	0.00	0.00	0.00
		13	exp	**mean**	**8.00**	**21.33**	**24.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**104.00**
				std	17.89	47.70	21.91	0.00	0.00	0.00	0.00	0.00	72.66
		14	shelt	**mean**	**8.00**	**45.33**	**136.00**	**0.00**	**24.00**	**0.00**	**0.00**	**0.00**	**16.00**
				std	17.89	41.74	92.09	0.00	35.78	0.00	0.00	0.00	21.91
Makira	**Makira**	**44**	exp	**mean**	**0.00**	**3261.33**	**197.33**	**0.00**	**0.00**	**0.00**	**0.00**	**21.33**	**0.00**
				std	0.00	5676.80	304.98	0.00	0.00	0.00	0.00	30.70	0.00
		45	shelt	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**16.00**	**0.00**	**13.33**	**53.33**	**0.00**
				std	0.00	0.00	0.00	0.00	21.91	0.00	29.81	18.86	0.00
		46	exp	**mean**	**0.00**	**680.00**	**725.33**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**24.00**
				std	0.00	975.29	1451.30	0.00	0.00	0.00	0.00	0.00	21.91
		47	shelt	**mean**	**0.00**	**485.33**	**29.33**	**0.00**	**16.00**	**0.00**	**58.67**	**32.00**	**21.33**
				std	0.00	479.31	46.57	0.00	21.91	0.00	54.65	52.15	47.70
Makira	**Three Sisters**	**48**	exp	**mean**	**0.00**	**224.00**	**205.33**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**24.00**
				std	0.00	285.10	285.59	0.00	0.00	0.00	0.00	0.00	35.78
		49	shelt	**mean**	**8.00**	**0.00**	**66.67**	**0.00**	**0.00**	**0.00**	**8.00**	**0.00**	**0.00**
				std	17.89	0.00	127.89	0.00	0.00	0.00	17.89	0.00	0.00
Makira	**Ugi**	**50**	exp	**mean**	**8.00**	**378.67**	**640.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**29.33**
				std	17.89	780.35	1319.60	0.00	0.00	0.00	0.00	0.00	28.91

					snappers				groupers				
Province	**Island**	**Site**	**Exposure**	**Mean Density (per ha)**	***Aprion***	***Lutjanus***	***Macolor***	***Symphorichthys***	***Cephalopholis***	***Cromileptes***	***Epinephelus***	***Plectropomus***	***Variola***
	Ugi (con't)	**51**	**shelt**	**mean**	**0.00**	**72.00**	**109.33**	**0.00**	**8.00**	**0.00**	**48.00**	**0.00**	**8.00**
				std	0.00	99.60	133.80	0.00	17.89	0.00	86.72	0.00	17.89
Malaita	**Malaita**	**52**	**shelt**	**mean**	**0.00**	**58.67**	**45.33**	**0.00**	**8.00**	**0.00**	**13.33**	**21.33**	**0.00**
				std	0.00	131.18	101.37	0.00	17.89	0.00	29.81	30.70	0.00
		53	**exp**	**mean**	**0.00**	**720.00**	**80.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**40.00**
				std	0.00	1233.53	74.83	0.00	0.00	0.00	0.00	0.00	40.00
		54	**shelt**	**mean**	**0.00**	**0.00**	**16.00**	**0.00**	**0.00**	**0.00**	**56.00**	**66.67**	**0.00**
				std	0.00	0.00	35.78	0.00	0.00	0.00	80.22	28.28	0.00
		55	**exp**	**mean**	**21.33**	**656.00**	**392.00**	**0.00**	**0.00**	**0.00**	**0.00**	**37.33**	**0.00**
				std	30.70	864.68	520.91	0.00	0.00	0.00	0.00	43.61	0.00
		56	**exp**	**mean**	**0.00**	**0.00**	**53.33**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
				std	0.00	0.00	49.89	0.00	0.00	0.00	0.00	0.00	0.00
		57	**shelt**	**mean**	**0.00**	**24.00**	**136.00**	**0.00**	**8.00**	**0.00**	**26.67**	**40.00**	**8.00**
				std	0.00	53.67	220.18	0.00	17.89	0.00	36.51	28.28	17.89
		58	**exp**	**mean**	**0.00**	**586.67**	**242.67**	**0.00**	**21.33**	**0.00**	**0.00**	**0.00**	**8.00**
				std	0.00	681.24	506.18	0.00	47.70	0.00	0.00	0.00	17.89
		59	**shelt**	**mean**	**0.00**	**88.00**	**21.33**	**0.00**	**40.00**	**0.00**	**8.00**	**8.00**	**8.00**
				std	0.00	155.95	30.70	0.00	59.63	0.00	17.89	17.89	17.89
		60	**exp**	**mean**	**0.00**	**0.00**	**61.33**	**0.00**	**26.67**	**0.00**	**0.00**	**0.00**	**32.00**
				std	0.00	0.00	48.63	0.00	59.63	0.00	0.00	0.00	43.82
		61	**shelt**	**mean**	**0.00**	**64.00**	**29.33**	**0.00**	**0.00**	**0.00**	**0.00**	**13.33**	**0.00**
				std	0.00	143.11	65.59	0.00	0.00	0.00	0.00	29.81	0.00
Western	**New Georgia**	**29**	**exp**	**mean**	**32.00**	**4592.00**	**1592.00**	**0.00**	**0.00**	**0.00**	**0.00**	**64.00**	**32.00**
				std	52.15	4949.13	2533.36	0.00	0.00	0.00	0.00	104.31	71.55
		30	**exp**	**mean**	**0.00**	**64.00**	**280.00**	**0.00**	**8.00**	**0.00**	**8.00**	**16.00**	**8.00**
				std	0.00	100.40	407.92	0.00	17.89	0.00	17.89	35.78	17.89
		31	**shelt**	**mean**	**0.00**	**8.00**	**69.33**	**0.00**	**48.00**	**0.00**	**0.00**	**56.00**	**0.00**
				std	0.00	17.89	96.79	0.00	52.15	0.00	0.00	66.93	0.00
		32	**exp**	**mean**	**0.00**	**15293.33**	**240.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**40.00**
				std	0.00	19895.48	492.34	0.00	0.00	0.00	0.00	0.00	89.44

					snappers				groupers				
Province	**Island**	**Site**	**Exposure**	**Mean Density (per ha)**	***Aprion***	***Lutjanus***	***Macolor***	***Symphorichthys***	***Cephalopholis***	***Cromileptes***	***Epinephelus***	***Plectropomus***	***Variola***
	New Georgia (con't)	**33**	**exp**	**mean**	**0.00**	**3280.00**	**336.00**	**0.00**	**93.33**	**8.00**	**0.00**	**40.00**	**0.00**
				std	0.00	3902.41	381.16	0.00	151.73	17.89	0.00	89.44	0.00
		34	**exp**	**mean**	**0.00**	**1173.33**	**21.33**	**8.00**	**8.00**	**0.00**	**0.00**	**16.00**	**0.00**
				std	0.00	1068.87	30.70	17.89	17.89	0.00	0.00	35.78	0.00
		35	**shelt**	**mean**	**0.00**	**552.00**	**608.00**	**0.00**	**13.33**	**0.00**	**0.00**	**16.00**	**0.00**
				std	0.00	1212.07	1292.87	0.00	29.81	0.00	0.00	21.91	0.00
		36	**exp**	**mean**	**0.00**	**208.00**	**128.00**	**0.00**	**16.00**	**0.00**	**0.00**	**16.00**	**0.00**
				std	0.00	172.97	142.86	0.00	21.91	0.00	0.00	21.91	0.00
		37	**shelt**	**mean**	**32.00**	**656.00**	**165.33**	**0.00**	**8.00**	**0.00**	**13.33**	**40.00**	**24.00**
				std	52.15	895.59	228.35	0.00	17.89	0.00	29.81	40.00	35.78
Western	**Shortlands**	**25**	**exp**	**mean**	**0.00**	**3626.67**	**90.67**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**96.00**
				std	0.00	5418.81	81.87	0.00	0.00	0.00	0.00	0.00	60.66
		26	**shelt**	**mean**	**8.00**	**106.67**	**0.00**	**0.00**	**29.33**	**0.00**	**13.33**	**0.00**	**0.00**
				std	17.89	97.07	0.00	0.00	28.91	0.00	29.81	0.00	0.00
		27	**exp**	**mean**	**0.00**	**8760.00**	**6136.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
				std	0.00	5807.58	13342.37	0.00	0.00	0.00	0.00	0.00	0.00
		28	**shelt**	**mean**	**0.00**	**184.00**	**0.00**	**0.00**	**16.00**	**0.00**	**8.00**	**0.00**	**24.00**
				std	0.00	368.35	0.00	0.00	21.91	0.00	17.89	0.00	21.91

Appendix 6. Mean density of each genera of food fishes in four key families (parrotfishes, surgeonfishes, emperors and fusiliers) of reef fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

					parrotfishes			surgeonfishes			emperors		fusiliers
Province	**Island**	**Site**	**Exposure**	**Mean Density (per ha)**	***Bolbometopon***	***Chlorurus***	***Hipposcarus***	***Acanthurus***	***Ctenochaetus***	***Naso***	***Lethrinus***	***Monotaxis***	***Caesio***
Central	**Floridas**	**1**	**shelt**	**mean**	**0.00**	**56.00**	**56.00**	**0.00**	**253.33**	**56.00**	**8.00**	**66.67**	**0.00**
				std	0.00	77.97	60.66	0.00	144.53	77.97	17.89	149.07	0.00
		2	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**66.67**	**1160.00**	**184.00**	**0.00**	**0.00**	**1333.33**
				std	0.00	0.00	0.00	81.65	810.49	108.07	0.00	0.00	1491.93
		62	**exp**	**mean**	**16.00**	**13.33**	**0.00**	**80.00**	**426.67**	**0.00**	**0.00**	**0.00**	**480.00**
				std	35.78	29.81	0.00	138.56	281.27	0.00	0.00	0.00	715.54
		63	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**40.00**	**104.00**	**0.00**	**24.00**	**792.00**
				std	0.00	0.00	0.00	0.00	59.63	60.66	0.00	21.91	1062.22
Central	**Russells**	**38**	**exp**	**mean**	**8.00**	**234.67**	**8.00**	**178.67**	**293.33**	**666.67**	**824.00**	**2453.33**	**2840.00**
				std	17.89	50.42	17.89	299.42	121.11	1061.19	1776.20	2025.20	4396.36
		39	**shelt**	**mean**	**0.00**	**72.00**	**480.00**	**112.00**	**266.67**	**66.67**	**16.00**	**253.33**	**0.00**
				std	0.00	82.52	280.00	190.58	81.65	75.42	21.91	95.68	0.00
		40	**exp**	**mean**	**8.00**	**13.33**	**264.00**	**229.33**	**560.00**	**170.67**	**96.00**	**3962.67**	**0.00**
				std	17.89	29.81	250.76	180.47	332.00	113.29	111.71	8331.75	0.00
		41	**shelt**	**mean**	**0.00**	**192.00**	**2586.67**	**176.00**	**120.00**	**53.33**	**56.00**	**541.33**	**384.00**
				std	0.00	262.91	5266.89	350.54	86.92	44.22	45.61	956.46	858.65
Central	**Savo**	**64**	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**240.00**	**600.00**	**101.33**	**960.00**	**360.00**	**0.00**
				std	0.00	0.00	0.00	536.66	312.69	107.74	920.87	349.86	0.00
Choiseul	**Choiseul**	**17**	**exp**	**mean**	**16.00**	**45.33**	**1200.00**	**1157.33**	**1333.33**	**1816.00**	**224.00**	**688.00**	**1360.00**
				std	35.78	70.30	1104.54	1327.53	1170.94	632.20	436.90	737.48	2616.87
		18	**shelt**	**mean**	**8.00**	**0.00**	**0.00**	**40.00**	**546.67**	**32.00**	**296.00**	**312.00**	**712.00**
				std	17.89	0.00	0.00	89.44	218.07	71.55	391.51	233.92	618.64
		19	**shelt**	**mean**	**8.00**	**0.00**	**0.00**	**0.00**	**493.33**	**0.00**	**32.00**	**136.00**	**6053.33**
				std	17.89	0.00	0.00	0.00	121.11	0.00	17.89	69.54	2165.59
		20	**exp**	**mean**	**0.00**	**26.67**	**1760.00**	**96.00**	**826.67**	**461.33**	**24.00**	**357.33**	**3200.00**
				std	0.00	36.51	2794.28	179.73	578.50	353.97	21.91	434.25	4604.35

					parrotfishes			surgeonfishes			emperors		fusiliers
Province	Island	Site	Exposure	Mean Density (per ha)	*Bolbometopon*	*Chlorurus*	*Hipposcarus*	*Acanthurus*	*Ctenochaetus*	*Naso*	*Lethrinus*	*Monotaxis*	*Caesio*
	Choiseul (con't)	**21**	**exp**	**mean**	**96.00**	**0.00**	**0.00**	**6080.00**	**1146.67**	**7517.33**	**704.00**	**576.00**	**0.00**
				std	49.35	0.00	0.00	2379.26	303.32	4403.57	828.30	649.06	0.00
		22	**shelt**	**mean**	**96.00**	**40.00**	**0.00**	**64.00**	**680.00**	**0.00**	**16.00**	**397.33**	**0.00**
				std	173.44	89.44	0.00	89.64	366.36	0.00	35.78	478.09	0.00
		23	**exp**	**mean**	**0.00**	**130.67**	**0.00**	**72.00**	**1293.33**	**237.33**	**1280.00**	**170.67**	**1064.00**
				std	0.00	105.58	0.00	103.97	484.42	162.32	1841.74	110.51	1571.14
		24	**shelt**	**mean**	**0.00**	**13.33**	**0.00**	**26.67**	**373.33**	**0.00**	**0.00**	**101.33**	**320.00**
				std	0.00	29.81	0.00	59.63	167.33	0.00	0.00	74.60	452.55
	Guadalcanal	**42**	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**1666.67**	**306.67**	**24.00**	**192.00**	**112.00**	**0.00**
				std	0.00	0.00	0.00	3607.66	281.27	53.67	429.33	142.55	0.00
		43	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**213.33**	**61.33**	**8.00**	**541.33**	**24.00**
				std	0.00	0.00	0.00	0.00	98.88	68.38	17.89	434.67	53.67
		65	**exp**	**mean**	**0.00**	**8.00**	**0.00**	**40.00**	**466.67**	**0.00**	**0.00**	**112.00**	**0.00**
				std	0.00	17.89	0.00	59.63	329.98	0.00	0.00	17.89	0.00
		66	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**26.67**	**133.33**	**786.67**	**0.00**	**0.00**	**0.00**
				std	0.00	0.00	0.00	36.51	156.35	1759.04	0.00	0.00	0.00
Isabel	**Arnavons**	**15**	**exp**	**mean**	**0.00**	**381.33**	**933.33**	**797.33**	**973.33**	**541.33**	**1760.00**	**1205.33**	**1120.00**
				std	0.00	687.51	1195.36	773.41	711.18	393.12	1791.09	1056.27	1752.71
		16	**shelt**	**mean**	**16.00**	**149.33**	**392.00**	**632.00**	**386.67**	**32.00**	**472.00**	**616.00**	**373.33**
				std	35.78	131.11	463.38	1006.54	264.15	52.15	765.45	444.56	695.38
	Isabel	**3**	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**141.33**	**1680.00**	**160.00**	**40.00**	**40.00**	**3061.33**
				std	0.00	0.00	0.00	139.08	1494.73	160.00	56.57	89.44	802.58
		4	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**53.33**	**26.67**	**0.00**	**56.00**	**53.33**	**4069.33**
				std	0.00	0.00	0.00	119.26	59.63	0.00	82.95	55.78	4102.63
		5	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**400.00**	**3893.33**	**349.33**	**1584.00**	**544.00**	**720.00**
				std	0.00	0.00	0.00	429.47	3501.30	448.15	749.72	1046.75	995.99
		6	**shelt**	**mean**	**0.00**	**21.33**	**16.00**	**16.00**	**680.00**	**144.00**	**101.33**	**32.00**	**504.00**
				std	0.00	47.70	35.78	35.78	483.97	260.15	47.70	71.55	1126.98

					parrotfishes			surgeonfishes			emperors		fusiliers
Province	**Island**	**Site**	**Exposure**	**Mean Density (per ha)**	***Bolbometopon***	***Chlorurus***	***Hipposcarus***	***Acanthurus***	***Ctenochaetus***	***Naso***	***Lethrinus***	***Monotaxis***	***Caesio***
		7	**exp**	**mean**	**112.00**	**0.00**	**472.00**	**152.00**	**866.67**	**200.00**	**216.00**	**82.67**	**3786.67**
				std	117.98	0.00	662.36	192.67	464.28	193.91	417.23	124.51	5582.19
		8	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**48.00**	**1426.67**	**629.33**	**96.00**	**0.00**	**2562.67**
				std	0.00	0.00	0.00	65.73	415.26	309.32	104.31	0.00	2639.70
		9	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**304.00**	**1480.00**	**0.00**	**48.00**	**0.00**	**240.00**
				std	0.00	0.00	0.00	537.10	1188.28	0.00	52.15	0.00	536.66
		10	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**37.33**	**426.67**	**0.00**	**200.00**	**77.33**	**141.33**
				std	0.00	0.00	0.00	51.98	372.98	0.00	337.05	151.55	196.32
		11	**exp**	**mean**	**64.00**	**213.33**	**488.00**	**938.67**	**2373.33**	**122.67**	**264.00**	**733.33**	**6506.67**
				std	92.09	315.67	663.57	1366.47	1078.68	142.17	434.14	1185.09	3960.25
		12	**shelt**	**mean**	**0.00**	**0.00**	**178.67**	**69.33**	**0.00**	**8.00**	**32.00**	**138.67**	**466.67**
				std	0.00	0.00	100.93	121.25	0.00	17.89	33.47	98.70	689.61
		13	**exp**	**mean**	**0.00**	**0.00**	**120.00**	**37.33**	**733.33**	**104.00**	**400.00**	**200.00**	**4320.00**
				std	0.00	0.00	268.33	54.49	405.52	166.37	894.43	447.21	9659.81
		14	**shelt**	**mean**	**0.00**	**13.33**	**56.00**	**1160.00**	**440.00**	**117.33**	**237.33**	**781.33**	**3781.33**
				std	0.00	29.81	77.97	2128.66	203.31	119.03	325.43	760.74	4107.98
Makira	**Makira**	**44**	**exp**	**mean**	**144.00**	**40.00**	**832.00**	**114.67**	**426.67**	**296.00**	**0.00**	**2696.00**	**0.00**
				std	216.52	89.44	978.73	122.78	341.89	174.46	0.00	3356.38	0.00
		45	**shelt**	**mean**	**32.00**	**61.33**	**165.33**	**392.00**	**13.33**	**50.67**	**8.00**	**77.33**	**1120.00**
				std	33.47	67.72	311.36	854.35	29.81	69.54	17.89	117.91	1559.49
		46	**exp**	**mean**	**0.00**	**8.00**	**0.00**	**0.00**	**1573.33**	**130.67**	**8.00**	**397.33**	**320.00**
				std	0.00	17.89	0.00	0.00	224.10	17.38	17.89	592.43	715.54
		47	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**66.67**	**0.00**	**0.00**	**56.00**	**0.00**
				std	0.00	0.00	0.00	0.00	81.65	0.00	0.00	104.31	0.00
Makira	**Three Sisters**	**48**	**exp**	**mean**	**0.00**	**13.33**	**0.00**	**53.33**	**1266.67**	**45.33**	**0.00**	**176.00**	**0.00**
				std	0.00	29.81	0.00	86.92	681.50	50.42	0.00	175.73	0.00
		49	**shelt**	**mean**	**0.00**	**13.33**	**152.00**	**26.67**	**546.67**	**64.00**	**32.00**	**221.33**	**0.00**
				std	0.00	29.81	145.33	59.63	310.56	72.66	52.15	291.91	0.00
Makira	**Ugi**	**50**	**exp**	**mean**	**24.00**	**80.00**	**0.00**	**0.00**	**560.00**	**538.67**	**16.00**	**602.67**	**0.00**
				std	53.67	101.98	0.00	0.00	285.19	505.14	21.91	1244.17	0.00

					parrotfishes			surgeonfishes			emperors		fusiliers
Province	**Island**	**Site**	**Exposure**	**Mean Density (per ha)**	***Bolbometopon***	***Chlorurus***	***Hipposcarus***	***Acanthurus***	***Ctenochaetus***	***Naso***	***Lethrinus***	***Monotaxis***	***Caesio***
	Ugi (con't)	**51**	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**109.33**	**746.67**	**26.67**	**808.00**	**125.33**	**0.00**
				std	0.00	0.00	0.00	244.48	384.13	36.51	1784.47	100.04	0.00
Malaita	**Malaita**	**52**	**shelt**	**mean**	**0.00**	**0.00**	**8.00**	**21.33**	**413.33**	**0.00**	**0.00**	**56.00**	**1360.00**
				std	0.00	0.00	17.89	30.70	392.71	0.00	0.00	56.88	2109.03
		53	**exp**	**mean**	**0.00**	**53.33**	**8.00**	**26.67**	**800.00**	**117.33**	**8.00**	**445.33**	**0.00**
				std	0.00	86.92	17.89	59.63	278.89	240.63	17.89	314.76	0.00
		54	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**16.00**	**93.33**	**0.00**	**32.00**	**13.33**	**880.00**
				std	0.00	0.00	0.00	21.91	76.01	0.00	71.55	29.81	1213.26
		55	**exp**	**mean**	**0.00**	**53.33**	**32.00**	**602.67**	**840.00**	**253.33**	**0.00**	**85.33**	**0.00**
				std	0.00	73.03	71.55	352.06	345.12	395.53	0.00	134.20	0.00
		56	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**40.00**	**1560.00**	**61.33**	**0.00**	**232.00**	**2712.00**
				std	0.00	0.00	0.00	89.44	2148.18	50.42	0.00	156.23	2104.93
		57	**shelt**	**mean**	**0.00**	**53.33**	**13.33**	**0.00**	**1666.67**	**245.33**	**8.00**	**61.33**	**0.00**
				std	0.00	119.26	29.81	0.00	1126.45	156.23	17.89	82.52	0.00
		58	**exp**	**mean**	**13.33**	**0.00**	**40.00**	**8.00**	**1880.00**	**200.00**	**16.00**	**333.33**	**0.00**
				std	29.81	0.00	56.57	17.89	792.18	118.13	21.91	138.88	0.00
		59	**shelt**	**mean**	**8.00**	**0.00**	**0.00**	**0.00**	**1426.67**	**256.00**	**40.00**	**197.33**	**80.00**
				std	17.89	0.00	0.00	0.00	423.22	294.00	40.00	332.32	178.89
		60	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**573.33**	**149.33**	**24.00**	**56.00**	**480.00**
				std	0.00	0.00	0.00	0.00	328.63	137.73	35.78	76.83	715.54
		61	**shelt**	**mean**	**8.00**	**0.00**	**0.00**	**0.00**	**93.33**	**0.00**	**16.00**	**53.33**	**320.00**
				std	17.89	0.00	0.00	0.00	89.44	0.00	21.91	119.26	715.54
		29	**exp**	**mean**	**0.00**	**72.00**	**1704.00**	**280.00**	**0.00**	**5144.00**	**8.00**	**160.00**	**0.00**
				std	0.00	99.60	2567.74	521.54	0.00	7365.19	17.89	357.77	0.00
		30	**exp**	**mean**	**0.00**	**16.00**	**0.00**	**128.00**	**0.00**	**88.00**	**16.00**	**248.00**	**0.00**
				std	0.00	21.91	0.00	86.72	0.00	86.72	21.91	490.22	0.00
		31	**shelt**	**mean**	**0.00**	**53.33**	**0.00**	**0.00**	**1160.00**	**98.67**	**8.00**	**234.67**	**5040.00**
				std	0.00	86.92	0.00	0.00	534.58	121.33	17.89	168.29	2523.49
		32	**exp**	**mean**	**0.00**	**16.00**	**0.00**	**61.33**	**1106.67**	**226.67**	**96.00**	**141.33**	**480.00**
				std	0.00	35.78	0.00	82.52	372.98	170.49	171.11	236.94	1073.31

					parrotfishes			surgeonfishes			emperors		fusiliers
Province	**Island**	**Site**	**Exposure**	**Mean Density (per ha)**	***Bolbometopon***	***Chlorurus***	***Hipposcarus***	***Acanthurus***	***Ctenochaetus***	***Naso***	***Lethrinus***	***Monotaxis***	***Caesio***
	Malaita (con't)	**33**	**exp**	**mean**	**0.00**	**8.00**	**2346.67**	**80.00**	**160.00**	**72.00**	**0.00**	**541.33**	**6720.00**
				std	0.00	17.89	3775.97	109.54	192.06	99.60	0.00	685.18	3871.95
		34	**exp**	**mean**	**88.00**	**8.00**	**48.00**	**826.67**	**1226.67**	**168.00**	**24.00**	**1618.67**	**3160.00**
				std	86.72	17.89	65.73	1421.95	891.44	271.88	21.91	1955.77	3106.12
Western	**New Georgia**	**35**	**shelt**	**mean**	**0.00**	**72.00**	**0.00**	**56.00**	**400.00**	**976.00**	**56.00**	**40.00**	**16800.00**
				std	0.00	161.00	0.00	87.64	249.44	1785.63	53.67	89.44	17064.58
		36	**exp**	**mean**	**16.00**	**96.00**	**928.00**	**66.67**	**1733.33**	**536.00**	**24.00**	**1394.67**	**8112.00**
				std	21.91	143.11	1736.06	75.42	567.65	878.45	35.78	2005.80	7237.59
		37	**shelt**	**mean**	**8.00**	**101.33**	**16.00**	**13.33**	**800.00**	**181.33**	**0.00**	**794.67**	**5056.00**
				std	17.89	204.96	35.78	29.81	188.56	107.74	0.00	1099.64	7788.69
Western	**Shortlands**	**25**	**exp**	**mean**	**0.00**	**13.33**	**0.00**	**3072.00**	**1146.67**	**293.33**	**456.00**	**0.00**	**266.67**
				std	0.00	29.81	0.00	1743.98	713.99	239.07	625.84	0.00	596.28
		26	**shelt**	**mean**	**48.00**	**213.33**	**0.00**	**0.00**	**1106.67**	**0.00**	**72.00**	**101.33**	**720.00**
				std	107.33	477.03	0.00	0.00	292.88	0.00	71.55	79.22	715.54
		27	**exp**	**mean**	**0.00**	**80.00**	**5312.00**	**7328.00**	**0.00**	**560.00**	**0.00**	**7016.00**	**2400.00**
				std	0.00	113.14	4957.85	4712.74	0.00	931.67	0.00	7984.46	5366.56
		28	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**8.00**	**0.00**	**16.00**	**16.00**	**48.00**	**736.00**
				std	0.00	0.00	0.00	17.89	0.00	35.78	35.78	71.55	718.67

Appendix 7. Mean density of three key species targeted by the live reef food fish trade on sheltered and exposed reef slopes (10m) in the Solomon Islands.

Province	Exposure	Mean Density (per ha)	Brown-marbled grouper	Camouflage grouper	Squaretail coral grouper
Central	**exp**	**mean**	**0.00**	**0.00**	**3.20**
		std	0.00	0.00	11.08
	shelt	**mean**	**0.00**	**2.00**	**36.00**
		std	0.00	8.94	56.42
Choiseul	**exp**	**mean**	**0.00**	**0.00**	**8.00**
		std	0.00	0.00	24.62
	shelt	**mean**	**2.00**	**2.00**	**4.00**
		std	8.94	8.94	12.31
Guadalcanal	**exp**	**mean**	**0.00**	**0.00**	**0.00**
		std	0.00	0.00	0.00
	shelt	**mean**	**0.00**	**0.00**	**48.00**
		std	0.00	0.00	55.46
Isabel	**exp**	**mean**	**1.14**	**0.00**	**23.62**
		std	6.76	0.00	66.36
	shelt	**mean**	**0.00**	**0.00**	**7.62**
		std	0.00	0.00	20.01
Makira	**exp**	**mean**	**0.00**	**0.00**	**0.00**
		std	0.00	0.00	0.00
	shelt	**mean**	**2.00**	**0.00**	**0.00**
		std	8.94	0.00	0.00
Malaita	**exp**	**mean**	**0.00**	**0.00**	**4.80**
		std	0.00	0.00	13.27
	shelt	**mean**	**1.60**	**0.00**	**12.80**
		std	8.00	0.00	19.04
Western	**exp**	**mean**	**0.00**	**2.00**	**17.00**
		std	0.00	8.83	51.15
	shelt	**mean**	**0.00**	**0.00**	**20.80**
		std	0.00	0.00	40.20

Appendix 8. Mean density of large reef fishes (30cm or more in size) of sharks, rays and some key families of bony fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

			Bony Fishes											Sharks & Rays	
Province	Exposure	Mean Density (per ha)	Emperors	Groupers	Parrotfishes	Rabbitfishes	Drummers	Snappers	Surgeonfishes	Sweetlips	Trevallies	Triggerfishes	Wrasses	Sharks	Rays
Central	**exp**	**mean**	**287.47**	**14.40**	**85.33**	**144.00**	**153.07**	**625.07**	**12.27**	**28.80**	**0.00**	**27.20**	**20.80**	**3.20**	**0.00**
		std	661.76	38.09	148.52	641.66	520.43	1211.71	35.05	57.18	0.00	57.41	49.15	11.08	0.00
	shelt	**mean**	**104.00**	**23.33**	**172.00**	**0.00**	**0.00**	**45.33**	**0.00**	**5.33**	**0.00**	**38.00**	**6.00**	**4.00**	**0.00**
		std	365.55	44.30	229.72	0.00	0.00	72.31	0.00	23.85	0.00	71.64	19.57	12.31	0.00
Choiseul	**exp**	**mean**	**86.00**	**25.33**	**584.00**	**6.67**	**0.00**	**416.67**	**31.33**	**27.33**	**7.33**	**82.00**	**8.00**	**4.00**	**0.00**
		std	357.36	38.67	1500.45	29.81	0.00	954.82	72.29	65.39	18.59	109.72	20.93	12.31	0.00
	shelt	**mean**	**22.00**	**7.33**	**68.00**	**303.33**	**0.00**	**112.00**	**3.33**	**22.00**	**40.67**	**12.00**	**6.00**	**0.00**	**0.00**
		std	98.39	18.59	164.83	1356.55	0.00	185.83	14.91	61.52	181.87	32.05	14.65	0.00	0.00
Guadalcanal	**exp**	**mean**	**0.00**	**13.33**	**22.22**	**4.44**	**0.00**	**24.00**	**0.00**	**22.22**	**0.00**	**8.00**	**0.00**	**4.44**	**0.00**
		std	0.00	41.86	54.43	17.21	0.00	92.95	0.00	53.73	0.00	16.56	0.00	17.21	0.00
	shelt	**mean**	**0.00**	**0.00**	**93.33**	**0.00**	**0.00**	**192.00**	**0.00**	**0.00**	**0.00**	**8.00**	**0.00**	**8.00**	**8.00**
		std	0.00	0.00	101.11	0.00	0.00	429.33	0.00	0.00	0.00	17.89	0.00	17.89	17.89
Isabel	**exp**	**mean**	**131.05**	**29.71**	**183.62**	**7.62**	**0.00**	**1180.57**	**171.43**	**69.33**	**20.19**	**284.57**	**16.38**	**0.00**	**0.00**
		std	495.40	80.66	392.77	45.07	0.00	2948.33	577.03	148.40	55.39	769.03	40.40	0.00	0.00
	shelt	**mean**	**17.52**	**16.38**	**25.90**	**0.00**	**2.29**	**72.38**	**0.00**	**30.10**	**11.43**	**2.29**	**3.81**	**1.14**	**0.00**
		std	57.56	48.30	69.50	0.00	13.52	168.54	0.00	77.09	31.54	9.42	15.70	6.76	0.00
Makira	**exp**	**mean**	**177.33**	**6.67**	**194.00**	**0.00**	**300.00**	**805.33**	**78.00**	**6.00**	**20.00**	**9.33**	**2.00**	**6.00**	**0.00**
		std	447.37	20.52	336.80	0.00	1341.64	1832.71	189.42	19.57	61.56	23.73	8.94	26.83	0.00
	shelt	mean	4.00	8.00	73.33	0.00	0.00	20.00	17.33	0.00	18.00	12.00	0.00	4.00	0.00
		std	12.31	20.93	148.13	0.00	0.00	55.82	44.98	0.00	46.65	45.14	0.00	12.31	0.00
Malaita	**exp**	**mean**	**15.47**	**14.93**	**51.73**	**5.33**	**28.80**	**131.20**	**34.67**	**108.80**	**4.80**	**1.60**	**9.60**	**0.00**	**1.60**
		std	40.86	33.40	86.86	26.67	90.65	322.67	71.28	280.07	24.00	8.00	20.91	0.00	8.00
	shelt	**mean**	**1.60**	**10.13**	**27.20**	**0.00**	**0.00**	**52.27**	**0.00**	**8.53**	**5.87**	**0.00**	**0.00**	**0.00**	**0.00**
		std	8.00	24.43	63.18	0.00	0.00	128.17	0.00	23.69	16.81	0.00	0.00	0.00	0.00
Western	**exp**	**mean**	**895.00**	**27.67**	**501.33**	**0.00**	**2.00**	**1422.00**	**619.67**	**15.67**	**1.00**	**28.00**	**7.67**	**9.33**	**0.00**
		std	3470.03	57.87	1524.53	0.00	12.65	4984.42	2627.83	51.50	6.32	57.43	22.77	19.61	0.00
	shelt	**mean**	**0.00**	**12.27**	**99.73**	**0.00**	**0.00**	**37.87**	**78.40**	**0.00**	**200.00**	**22.40**	**5.87**	**13.87**	**0.00**
		std	0.00	23.70	282.30	0.00	0.00	100.12	392.00	0.00	1000.00	72.18	16.81	29.18	0.00

Appendix 9. Mean biomass of key families of food fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

					Bony Fishes								Sharks & Rays	
Province	Island	Site	Exposure	Mean Biomass (kg/ha)	Emperors	Fusiliers	Goatfishes	Drummers	Snappers	Surgeonfishes	Triggerfishes	Parrotfishes	Sharks	Rays
Central	**Floridas**	**1**	**shelt**	**mean**	**11.93**	**0.00**	**0.00**	**0.00**	**52.13**	**27.17**	**103.50**	**61.77**	**0.00**	**0.00**
				sd	16.76	0.00	0.00	0.00	58.92	21.19	130.25	67.15	0.00	0.00
		2	**exp**	**mean**	**0.00**	**133.93**	**1.72**	**0.00**	**160.67**	**154.95**	**37.01**	**0.00**	**0.00**	**0.00**
				sd	0.00	133.83	3.85	0.00	114.23	106.49	67.02	0.00	0.00	0.00
		62	**exp**	**mean**	**0.00**	**43.41**	**1.23**	**0.00**	**2.58**	**17.36**	**1.46**	**235.22**	**0.00**	**0.00**
				sd	0.00	67.52	1.74	0.00	4.73	28.30	2.79	511.21	0.00	0.00
		63	**shelt**	**mean**	**0.49**	**1.61**	**0.32**	**0.00**	**0.00**	**13.67**	**2.21**	**0.00**	**0.00**	**0.00**
				sd	0.49	1.58	0.64	0.00	0.00	4.47	2.38	0.00	0.00	0.00
Central	**Russells**	**38**	**exp**	**mean**	**1164.12**	**224.44**	**30.54**	**1036.40**	**2726.01**	**165.62**	**95.89**	**413.66**	**281.50**	**0.00**
				sd	691.19	347.44	54.85	168.71	1398.49	262.50	120.26	425.86	264.56	0.00
		39	**shelt**	**mean**	**21.22**	**0.00**	**4.63**	**0.00**	**41.86**	**47.76**	**1.28**	**275.71**	**0.00**	**0.00**
				sd	8.04	0.00	6.59	0.00	49.41	46.78	1.44	182.10	0.00	0.00
		40	**exp**	**mean**	**327.35**	**0.00**	**9.79**	**0.00**	**162.64**	**121.14**	**40.06**	**197.03**	**0.00**	**0.00**
				sd	511.01	0.00	15.48	0.00	156.71	96.46	49.09	250.28	0.00	0.00
		41	**shelt**	**mean**	**300.18**	**52.78**	**0.00**	**1391.47**	**679.36**	**84.35**	**189.15**	**1061.86**	**78.34**	**0.00**
				sd	489.48	118.03	0.00	3103.39	1351.25	148.48	227.67	1933.40	50.30	0.00
Central	**Savo**	**64**	**exp**	**mean**	**128.61**	**0.00**	**16.06**	**1232.38**	**560.94**	**65.60**	**6.06**	**0.00**	**0.00**	**0.00**
				sd	130.77	0.00	19.01	2755.68	1122.20	53.49	9.82	0.00	0.00	0.00
Choiseul	**Choiseul**	**17**	**exp**	**mean**	**481.77**	**112.15**	**9.76**	**46.13**	**2195.99**	**655.03**	**170.46**	**867.03**	**0.00**	**0.00**
				sd	699.02	205.82	9.25	103.14	1485.70	282.58	101.63	819.13	0.00	0.00
		18	**shelt**	**mean**	**103.42**	**56.27**	**5.46**	**0.00**	**320.62**	**49.74**	**29.42**	**90.51**	**0.00**	**0.00**
				sd	129.79	48.89	10.71	0.00	355.26	17.75	49.02	202.38	0.00	0.00
		19	**shelt**	**mean**	**15.19**	**275.16**	**21.11**	**0.00**	**141.25**	**31.00**	**17.28**	**12.29**	**0.00**	**0.00**
				sd	7.31	75.97	46.37	0.00	191.63	9.23	23.90	27.47	0.00	0.00
		20	**exp**	**mean**	**57.27**	**252.89**	**2.89**	**0.00**	**249.43**	**117.80**	**19.37**	**1022.17**	**186.75**	**0.00**
				sd	45.18	363.87	5.18	0.00	173.32	86.30	31.72	1804.60	186.75	0.00
		21	**exp**	**mean**	**159.96**	**0.00**	**25.09**	**0.00**	**145.55**	**1406.12**	**168.62**	**2483.05**	**124.42**	**0.00**
				sd	146.77	0.00	15.90	0.00	62.48	637.19	127.18	1616.31	124.42	0.00

					Bony Fishes								Sharks & Rays	
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	**Emperors**	**Fusiliers**	**Goatfishes**	**Drummers**	**Snappers**	**Surgeonfishes**	**Triggerfishes**	**Parrotfishes**	**Sharks**	**Rays**
	Choiseul (con't)	**22**	**shelt**	**mean**	**137.70**	**0.00**	**308.67**	**0.00**	**147.61**	**52.40**	**26.37**	**1947.45**	**0.00**	**0.00**
				sd	228.44	0.00	516.10	0.00	169.68	32.54	32.29	3270.58	0.00	0.00
		23	**exp**	**mean**	**112.60**	**116.81**	**11.62**	**1.44**	**60.96**	**125.82**	**3.24**	**55.80**	**0.00**	**0.00**
				sd	127.48	192.78	16.90	3.21	64.11	80.21	1.99	74.43	0.00	0.00
		24	**shelt**	**mean**	**10.82**	**14.55**	**15.47**	**0.00**	**1.69**	**45.36**	**1.70**	**1.10**	**0.00**	**0.00**
				sd	9.55	22.31	16.48	0.00	3.77	34.81	3.80	2.47	0.00	0.00
Guadalcanal	**Guadalcanal**	**42**	**exp**	**mean**	**34.34**	**0.00**	**25.96**	**0.00**	**55.00**	**722.79**	**32.69**	**0.00**	**0.00**	**0.00**
				sd	45.63	0.00	35.61	0.00	102.40	1555.52	15.18	0.00	0.00	0.00
		43	**shelt**	**mean**	**88.09**	**1.90**	**8.49**	**0.00**	**347.16**	**12.77**	**37.69**	**0.00**	**27.93**	**135.27**
				sd	137.34	4.24	18.99	0.00	517.44	7.64	36.87	0.00	27.93	135.27
		65	**exp**	**mean**	**21.44**	**0.00**	**8.12**	**0.00**	**63.86**	**27.88**	**24.32**	**1.15**	**0.00**	**0.00**
				sd	15.01	0.00	12.18	0.00	95.34	12.69	28.49	2.58	0.00	0.00
		66	**exp**	**mean**	**0.00**	**0.00**	**0.17**	**0.00**	**0.04**	**81.23**	**5.29**	**0.00**	**555.44**	**0.00**
				sd	0.00	0.00	0.39	0.00	0.10	170.58	6.87	0.00	555.44	0.00
Isabel	**Arnavons**	**15**	**exp**	**mean**	**822.42**	**88.51**	**7.92**	**287.69**	**2448.24**	**376.89**	**93.28**	**379.62**	**0.00**	**0.00**
				sd	1065.05	138.51	11.34	393.94	3422.25	144.59	128.95	575.08	0.00	0.00
		16	**shelt**	**mean**	**279.21**	**31.45**	**3.83**	**0.00**	**209.99**	**146.43**	**9.28**	**349.15**	**23.39**	**0.00**
				sd	279.95	54.75	5.45	0.00	173.24	221.17	10.78	548.92	23.39	0.00
Isabel	**Isabel**	**3**	**exp**	**mean**	**13.23**	**208.11**	**0.75**	**234.63**	**0.00**	**162.73**	**5.05**	**0.00**	**0.00**	**0.00**
				sd	28.14	44.39	1.67	452.96	0.00	122.31	2.03	0.00	0.00	0.00
		4	**shelt**	**mean**	**10.75**	**411.54**	**0.00**	**174.72**	**795.11**	**17.20**	**11.85**	**0.00**	**0.00**	**0.00**
				sd	11.95	439.94	0.00	242.52	1167.73	29.87	13.77	0.00	0.00	0.00
		5	**exp**	**mean**	**280.44**	**35.36**	**11.57**	**0.00**	**1289.35**	**489.23**	**98.66**	**0.00**	**0.00**	**0.00**
				sd	586.43	69.07	14.98	0.00	2875.22	309.07	139.56	0.00	0.00	0.00
		6	**shelt**	**mean**	**13.39**	**20.23**	**0.00**	**0.00**	**32.62**	**58.12**	**5.70**	**4.72**	**0.00**	**0.00**
				sd	27.60	45.24	0.00	0.00	66.72	50.59	5.94	6.59	0.00	0.00
		7	**exp**	**mean**	**54.15**	**476.47**	**1.28**	**220.60**	**839.11**	**117.08**	**38.92**	**1096.05**	**0.00**	**0.00**
				sd	91.03	737.21	2.86	341.60	408.66	94.10	66.28	933.54	0.00	0.00
		8	**shelt**	**mean**	**5.45**	**118.57**	**0.21**	**10.19**	**138.33**	**109.26**	**3.28**	**0.00**	**0.00**	**0.00**
				sd	7.05	169.25	0.48	22.79	179.27	39.79	5.92	0.00	0.00	0.00

					Bony Fishes							Sharks & Rays	
Province	Island	Site	Exposure	Mean Biomass (kg/ha)	Emperors	Fusiliers	Goatfishes	Drummers	Snappers	Surgeonfishes	Triggerfishes	Parrotfishes	Sharks	Rays
	Isabel (con't)	9	exp	**mean**	**0.73**	**5.54**	**4.20**	**0.00**	**2.30**	**178.16**	**1.54**	**0.00**	**0.00**	**0.00**
				sd	1.08	12.39	5.83	0.00	5.14	121.99	1.27	0.00	0.00	0.00
		10	shelt	**mean**	**8.24**	**8.72**	**3.11**	**0.00**	**0.43**	**39.42**	**0.47**	**0.00**	**0.00**	**0.00**
				sd	12.50	13.81	6.96	0.00	0.96	35.14	0.68	0.00	0.00	0.00
		11	exp	**mean**	**535.03**	**363.43**	**4.82**	**0.00**	**1752.85**	**940.39**	**2428.45**	**1254.55**	**0.00**	**0.00**
				sd	929.74	300.72	10.78	0.00	1271.04	957.30	1732.02	1459.38	0.00	0.00
		12	shelt	**mean**	**8.59**	**20.97**	**3.99**	**0.00**	**4.42**	**15.17**	**12.76**	**10.52**	**0.00**	**0.00**
				sd	4.41	45.65	6.72	0.00	8.73	26.45	23.90	15.86	0.00	0.00
		13	exp	**mean**	**40.78**	**144.46**	**9.06**	**0.00**	**18.12**	**98.48**	**7.10**	**78.28**	**0.00**	**0.00**
				sd	86.87	323.02	18.51	0.00	23.55	120.28	6.08	175.03	0.00	0.00
		14	shelt	**mean**	**204.60**	**570.23**	**0.24**	**0.00**	**30.39**	**260.04**	**20.19**	**28.12**	**0.00**	**0.00**
				sd	285.31	731.67	0.53	0.00	18.64	469.72	28.85	37.21	0.00	0.00
Makira	**Makira**	**44**	exp	**mean**	**1424.59**	**0.00**	**26.83**	**1856.13**	**3894.63**	**104.55**	**11.83**	**1794.97**	**0.00**	**0.00**
				sd	2632.75	0.00	43.18	2716.37	8162.98	66.47	25.01	2538.33	0.00	0.00
		45	shelt	**mean**	**9.50**	**3.15**	**11.67**	**0.00**	**0.00**	**180.80**	**2.88**	**61.57**	**0.00**	**0.00**
				sd	11.91	4.39	23.26	0.00	0.00	364.77	2.77	51.97	0.00	0.00
		46	exp	**mean**	**263.70**	**25.29**	**1.27**	**2.87**	**655.33**	**99.80**	**5.74**	**1.15**	**41.47**	**0.00**
				sd	380.23	56.55	1.80	6.42	1256.49	38.20	7.18	2.58	41.47	0.00
		47	shelt	**mean**	**2.77**	**0.00**	**15.28**	**0.00**	**30.62**	**6.74**	**8.28**	**0.00**	**1289.05**	**0.00**
				sd	4.58	0.00	11.08	0.00	30.37	7.66	13.95	0.00	1095.58	0.00
Makira	**Three Sisters**	**48**	exp	**mean**	**26.66**	**0.00**	**9.11**	**0.00**	**104.33**	**70.90**	**4.30**	**4.10**	**0.00**	**0.00**
				sd	18.04	0.00	14.92	0.00	193.62	46.73	3.58	9.17	0.00	0.00
		49	shelt	**mean**	**33.44**	**0.00**	**4.48**	**16.79**	**12.03**	**52.04**	**124.25**	**30.79**	**0.00**	**0.00**
				sd	36.81	0.00	9.38	37.55	23.64	54.45	146.54	32.22	0.00	0.00
Makira	**Ugi**	**50**	exp	**mean**	**140.09**	**0.00**	**29.85**	**0.00**	**800.78**	**476.18**	**78.54**	**125.22**	**0.00**	**0.00**
				sd	211.57	0.00	41.60	0.00	1364.78	605.51	93.93	181.96	0.00	0.00
		51	shelt	**mean**	**29.17**	**0.00**	**3.51**	**0.00**	**97.46**	**54.23**	**13.68**	**0.00**	**0.00**	**0.00**
				sd	39.83	0.00	4.81	0.00	133.59	29.12	25.71	0.00	0.00	0.00
Malaita	**Malaita**	**52**	shelt	**mean**	**2.32**	**107.48**	**1.69**	**0.00**	**27.35**	**25.54**	**9.88**	**1.40**	**0.00**	**0.00**
				sd	2.21	166.67	0.64	0.00	59.12	21.99	9.29	3.14	0.00	0.00

					Bony Fishes								Sharks & Rays	
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	**Emperors**	**Fusiliers**	**Goatfishes**	**Drummers**	**Snappers**	**Surgeonfishes**	**Triggerfishes**	**Parrotfishes**	**Sharks**	**Rays**
	Malaita (con't)	**53**	**exp**	**mean**	**90.54**	**0.00**	**1.72**	**91.48**	**192.62**	**56.11**	**6.75**	**13.83**	**0.00**	**0.00**
				sd	98.45	0.00	2.68	125.80	228.08	4.91	5.69	15.65	0.00	0.00
		54	**shelt**	**mean**	**2.49**	**20.60**	**8.76**	**0.00**	**0.27**	**13.13**	**6.89**	**0.00**	**0.00**	**0.00**
				sd	4.46	44.48	5.02	0.00	0.61	11.07	5.97	0.00	0.00	0.00
		55	**exp**	**mean**	**34.99**	**0.00**	**1.85**	**4.80**	**521.98**	**286.94**	**6.62**	**27.13**	**0.00**	**22435.27**
				sd	65.89	0.00	2.54	10.74	608.87	190.70	4.55	37.72	0.00	22435.27
		56	**exp**	**mean**	**21.89**	**214.32**	**0.96**	**0.00**	**3.28**	**66.56**	**4.54**	**0.00**	**0.00**	**0.00**
				sd	18.56	166.35	1.32	0.00	3.12	80.25	5.99	0.00	0.00	0.00
		57	**shelt**	**mean**	**5.36**	**0.00**	**1.77**	**0.00**	**131.22**	**195.32**	**2.13**	**55.04**	**0.00**	**0.00**
				sd	8.18	0.00	3.91	0.00	252.16	116.48	2.33	119.24	0.00	0.00
		58	**exp**	**mean**	**52.58**	**0.00**	**41.74**	**61.31**	**282.36**	**228.27**	**17.92**	**220.62**	**0.00**	**0.00**
				sd	66.59	0.00	55.44	137.10	459.86	120.65	36.10	450.84	0.00	0.00
		59	**shelt**	**mean**	**49.50**	**6.32**	**1.85**	**0.00**	**27.86**	**137.06**	**3.40**	**69.91**	**0.00**	**0.00**
				sd	62.71	14.14	1.38	0.00	39.32	76.97	2.68	156.32	0.00	0.00
		60	**exp**	**mean**	**4.47**	**5.63**	**5.26**	**11.38**	**4.28**	**88.24**	**0.40**	**0.00**	**0.00**	**0.00**
				sd	3.32	8.39	6.59	18.47	4.92	51.09	0.76	0.00	0.00	0.00
		61	**shelt**	**mean**	**3.29**	**25.29**	**27.22**	**0.00**	**47.90**	**4.03**	**0.29**	**27.64**	**0.00**	**0.00**
				sd	6.05	56.55	42.63	0.00	107.11	3.85	0.65	61.80	0.00	0.00
Western	**New Georgia**	**29**	**exp**	**mean**	**40.97**	**0.00**	**0.00**	**0.00**	**1953.68**	**3062.22**	**126.25**	**1757.36**	**388.12**	**0.00**
				sd	68.03	0.00	0.00	0.00	2295.36	5128.26	117.11	2673.76	323.93	0.00
		30	**exp**	**mean**	**153.81**	**0.00**	**0.64**	**25.05**	**177.40**	**49.36**	**37.90**	**19.89**	**0.00**	**0.00**
				sd	328.03	0.00	1.08	56.00	219.71	43.95	49.23	28.35	0.00	0.00
		31	**shelt**	**mean**	**20.32**	**331.16**	**8.76**	**0.00**	**6.35**	**76.00**	**23.75**	**2.99**	**22.54**	**0.00**
				sd	13.75	222.66	5.32	0.00	10.07	33.11	15.85	5.53	22.54	0.00
		32	**exp**	**mean**	**118.35**	**37.93**	**4.74**	**0.00**	**2083.54**	**196.65**	**28.70**	**15.45**	**991.21**	**0.00**
				sd	177.83	84.82	9.06	0.00	2482.72	194.25	37.34	34.55	991.21	0.00
		33	**exp**	**mean**	**81.86**	**401.27**	**48.37**	**278.52**	**532.88**	**28.86**	**85.09**	**745.47**	**0.00**	**0.00**
				sd	133.09	322.78	37.72	243.73	520.22	21.04	176.15	1381.87	0.00	0.00
		34	**exp**	**mean**	**143.52**	**110.97**	**125.59**	**0.00**	**113.74**	**228.62**	**11.52**	**157.12**	**0.00**	**0.00**
				sd	156.08	113.59	273.40	0.00	112.54	302.07	16.93	144.16	0.00	0.00

					Bony Fishes							Sharks & Rays	
Province	Island	Site	Exposure	Mean Biomass (kg/ha)	Emperors	Fusiliers	Goatfishes	Drummers	Snappers	Surgeonfishes	Triggerfishes	Parrotfishes	Sharks	Rays
	New Georgia (con't)	**35**	**shelt**	**mean**	**6.91**	**1327.67**	**8.05**	**0.00**	**181.93**	**364.80**	**1.77**	**69.53**	**107.81**	**0.00**
				sd	6.08	1348.58	11.50	0.00	397.89	706.96	2.32	155.48	107.81	0.00
		36	**exp**	**mean**	**126.18**	**350.14**	**12.64**	**116.27**	**70.82**	**77.78**	**139.38**	**414.66**	**563.04**	**0.00**
				sd	178.53	424.23	18.77	256.00	82.93	41.16	222.15	685.68	553.59	0.00
		37	**shelt**	**mean**	**68.29**	**399.57**	**2.59**	**0.00**	**163.70**	**75.10**	**96.60**	**306.19**	**1155.24**	**0.00**
				sd	96.56	615.53	5.80	0.00	247.95	22.11	144.58	464.41	963.38	0.00
	Shortlands	**25**	**exp**	**mean**	**41.04**	**50.47**	**1.30**	**0.00**	**241.62**	**646.26**	**1.51**	**20.28**	**5.00**	**0.00**
				sd	54.65	112.86	2.90	0.00	294.08	424.48	2.59	45.35	5.00	0.00
		26	**shelt**	**mean**	**13.67**	**26.41**	**3.03**	**0.00**	**40.69**	**91.23**	**14.12**	**1235.93**	**0.00**	**0.00**
				sd	9.08	55.94	4.27	0.00	45.13	30.48	13.60	2763.63	0.00	0.00
		27	**exp**	**mean**	**5090.59**	**189.67**	**0.00**	**0.00**	**10357.05**	**3750.86**	**8.39**	**2464.48**	**343.17**	**0.00**
				sd	5555.93	424.11	0.00	0.00	11100.92	2228.50	10.63	2256.92	210.49	0.00
		28	**shelt**	**mean**	**7.94**	**15.48**	**2.18**	**0.00**	**3.19**	**0.06**	**13.00**	**0.00**	**142.40**	**0.00**
				sd	15.65	30.29	3.55	0.00	4.99	0.13	17.42	0.00	110.83	0.00

Appendix 10. Mean biomass of each genera of food fishes in two key families (snappers and groupers) of reef fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

					snappers				groupers				
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	***Aprion***	***Lutjanus***	***Macolor***	***Symphorichthys***	***Cephalopholis***	***Cromileptes***	***Epinephelus***	***Plectropomus***	***Variola***
Central	**Floridas**	**1**	**shelt**	**mean**	**0.00**	**36.18**	**15.95**	**0.00**	**5.04**	**0.77**	**0.00**	**37.77**	**7.07**
				std	0.00	36.04	35.67	0.00	11.27	1.72	0.00	31.41	9.71
		2	**exp**	**mean**	**0.00**	**67.19**	**93.47**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**20.02**
				std	0.00	66.60	128.37	0.00	0.00	0.00	0.00	0.00	12.04
		62	**exp**	**mean**	**0.00**	**0.00**	**2.58**	**0.00**	**1.20**	**0.00**	**1.36**	**0.00**	**5.02**
				std	0.00	0.00	4.73	0.00	1.75	0.00	3.03	0.00	3.92
		63	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**6.61**	**0.00**
				std	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.56	0.00
Central	**Russells**	**38**	**exp**	**mean**	**0.00**	**1779.90**	**946.11**	**0.00**	**1.07**	**0.00**	**0.00**	**32.38**	**0.00**
				std	0.00	1087.18	940.64	0.00	2.39	0.00	0.00	46.21	0.00
		39	**shelt**	**mean**	**0.00**	**29.07**	**12.80**	**0.00**	**0.00**	**0.00**	**0.00**	**43.00**	**0.00**
				std	0.00	22.98	28.61	0.00	0.00	0.00	0.00	70.68	0.00
		40	**exp**	**mean**	**0.00**	**18.14**	**144.51**	**0.00**	**1.30**	**0.00**	**0.00**	**16.44**	**0.75**
				std	0.00	15.02	143.03	0.00	2.91	0.00	0.00	23.62	1.68
		41	**shelt**	**mean**	**0.00**	**622.40**	**56.96**	**0.00**	**0.77**	**0.00**	**16.32**	**33.43**	**0.00**
				std	0.00	1382.84	41.47	0.00	1.71	0.00	36.50	43.00	0.00
Central	**Savo**	**64**	**exp**	**mean**	**0.00**	**47.33**	**513.61**	**0.00**	**6.76**	**0.00**	**0.00**	**0.00**	**0.00**
				std	0.00	62.04	1147.23	0.00	11.04	0.00	0.00	0.00	0.00
Choiseul	**Choiseul**	**17**	**exp**	**mean**	**38.40**	**888.66**	**1268.94**	**0.00**	**2.03**	**0.00**	**0.00**	**0.00**	**12.00**
				std	42.92	303.47	1274.32	0.00	2.78	0.00	0.00	0.00	18.98
		18	**shelt**	**mean**	**3.31**	**146.18**	**171.12**	**0.00**	**3.28**	**0.00**	**0.00**	**2.44**	**0.00**
				std	7.41	183.13	183.48	0.00	2.75	0.00	0.00	5.46	0.00
		19	**shelt**	**mean**	**0.00**	**63.90**	**77.35**	**0.00**	**7.81**	**0.00**	**1.15**	**0.00**	**0.38**
				std	0.00	103.81	92.68	0.00	6.24	0.00	2.56	0.00	0.84
		20	**exp**	**mean**	**0.00**	**102.26**	**147.17**	**0.00**	**2.21**	**0.00**	**0.00**	**17.28**	**0.93**
				std	0.00	199.57	99.90	0.00	4.94	0.00	0.00	27.14	2.07

					snappers				groupers				
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	***Aprion***	***Lutjanus***	***Macolor***	***Symphorichthys***	***Cephalopholis***	***Cromileptes***	***Epinephelus***	***Plectropomus***	***Variola***
	Choiseul (con't)	**21**	**exp**	**mean**	**41.70**	**0.00**	**103.85**	**0.00**	**2.02**	**0.00**	**0.00**	**0.00**	**86.97**
				std	93.24	0.00	65.10	0.00	2.47	0.00	0.00	0.00	121.20
		22	**shelt**	**mean**	**0.00**	**25.28**	**122.33**	**0.00**	**5.64**	**0.00**	**0.00**	**0.00**	**5.18**
				std	0.00	25.75	166.41	0.00	7.45	0.00	0.00	0.00	7.54
		23	**exp**	**mean**	**0.00**	**51.29**	**9.67**	**0.00**	**4.47**	**0.00**	**0.00**	**14.96**	**1.30**
				std	0.00	67.43	6.84	0.00	8.90	0.00	0.00	33.44	2.03
		24	**shelt**	**mean**	**0.00**	**0.00**	**0.48**	**1.21**	**6.21**	**0.00**	**7.45**	**0.59**	**0.00**
				std	0.00	0.00	1.06	2.70	13.89	0.00	11.98	1.33	0.00
Guadalcanal	**Guadalcanal**	**42**	**exp**	**mean**	**0.00**	**52.00**	**3.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**16.96**
				std	0.00	102.62	2.62	0.00	0.00	0.00	0.00	0.00	32.99
		43	**shelt**	**mean**	**0.00**	**251.46**	**95.70**	**0.00**	**1.73**	**0.00**	**0.00**	**7.35**	**0.00**
				std	0.00	341.12	214.00	0.00	1.81	0.00	0.00	7.04	0.00
		65	**exp**	**mean**	**0.00**	**5.53**	**58.33**	**0.00**	**0.00**	**0.00**	**1.11**	**0.00**	**5.75**
				std	0.00	8.57	98.94	0.00	0.00	0.00	1.58	0.00	11.84
		66	**exp**	**mean**	**0.00**	**0.00**	**0.04**	**0.00**	**2.57**	**0.00**	**0.00**	**0.00**	**0.00**
				std	0.00	0.00	0.10	0.00	5.75	0.00	0.00	0.00	0.00
Isabel	**Arnavons**	**15**	**exp**	**mean**	**35.92**	**1708.40**	**703.92**	**0.00**	**0.43**	**0.00**	**8.96**	**92.42**	**66.65**
				std	34.62	2435.74	995.17	0.00	0.97	0.00	18.21	146.45	74.88
		16	**shelt**	**mean**	**10.52**	**103.11**	**96.36**	**0.00**	**1.30**	**0.00**	**0.00**	**69.03**	**2.61**
				std	15.20	91.06	84.56	0.00	2.91	0.00	0.00	134.26	4.85
Isabel	**Isabel**	**3**	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**3.25**	**0.00**	**0.00**	**0.00**	**1.25**
				std	0.00	0.00	0.00	0.00	4.86	0.00	0.00	0.00	2.80
		4	**shelt**	**mean**	**0.00**	**795.11**	**0.00**	**0.00**	**5.62**	**0.00**	**0.00**	**1.18**	**0.00**
				std	0.00	1167.73	0.00	0.00	10.56	0.00	0.00	2.64	0.00
		5	**exp**	**mean**	**0.00**	**1168.43**	**120.93**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
				std	0.00	2610.29	264.97	0.00	0.00	0.00	0.00	0.00	0.00
		6	**shelt**	**mean**	**0.00**	**6.12**	**20.22**	**6.28**	**3.67**	**0.00**	**0.00**	**0.00**	**0.95**
				std	0.00	10.70	42.10	14.04	7.92	0.00	0.00	0.00	2.06

					snappers				groupers				
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	***Aprion***	***Lutjanus***	***Macolor***	***Symphorichthys***	***Cephalopholis***	***Cromileptes***	***Epinephelus***	***Plectropomus***	***Variola***
	Isabel (con't)	**7**	**exp**	**mean**	**23.37**	**313.66**	**502.08**	**0.00**	**0.00**	**0.00**	**0.00**	**4.04**	**0.00**
				std	52.26	288.37	332.64	0.00	0.00	0.00	0.00	9.04	0.00
		8	**shelt**	**mean**	**0.00**	**7.15**	**131.18**	**0.00**	**0.12**	**0.00**	**0.00**	**9.18**	**0.00**
				std	0.00	11.06	168.29	0.00	0.27	0.00	0.00	14.69	0.00
		9	**exp**	**mean**	**0.00**	**0.00**	**2.30**	**0.00**	**0.00**	**0.00**	**0.00**	**1.97**	**0.00**
				std	0.00	0.00	5.14	0.00	0.00	0.00	0.00	2.70	0.00
		10	**shelt**	**mean**	**0.00**	**0.43**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
				std	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		11	**exp**	**mean**	**0.00**	**1579.12**	**173.73**	**0.00**	**6.15**	**0.00**	**0.44**	**35.13**	**0.93**
				std	0.00	1313.19	254.43	0.00	13.75	0.00	0.98	48.24	2.07
		12	**shelt**	**mean**	**0.00**	**0.43**	**0.00**	**3.99**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
				std	0.00	0.96	0.00	8.92	0.00	0.00	0.00	0.00	0.00
		13	**exp**	**mean**	**5.20**	**10.80**	**2.12**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**15.70**
				std	11.62	24.16	2.66	0.00	0.00	0.00	0.00	0.00	14.12
		14	**shelt**	**mean**	**1.95**	**3.76**	**24.68**	**0.00**	**0.68**	**0.00**	**0.00**	**0.00**	**0.94**
				std	4.36	4.32	16.54	0.00	0.99	0.00	0.00	0.00	2.07
Makira	**Makira**	**44**	**exp**	**mean**	**0.00**	**3773.74**	**120.88**	**0.00**	**0.00**	**0.00**	**0.00**	**16.27**	**0.00**
				std	0.00	8225.27	197.92	0.00	0.00	0.00	0.00	32.83	0.00
		45	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**0.87**	**0.00**	**0.67**	**21.95**	**0.00**
				std	0.00	0.00	0.00	0.00	1.19	0.00	1.50	25.06	0.00
		46	**exp**	**mean**	**0.00**	**299.27**	**356.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.46**
				std	0.00	534.88	726.62	0.00	0.00	0.00	0.00	0.00	3.87
		47	**shelt**	**mean**	**0.00**	**30.44**	**0.18**	**0.00**	**4.96**	**0.00**	**44.48**	**4.11**	**1.91**
				std	0.00	30.16	0.25	0.00	7.00	0.00	93.10	6.45	4.27
Makira	**Three Sisters**	**48**	**exp**	**mean**	**0.00**	**50.23**	**54.11**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.62**
				std	0.00	91.87	102.10	0.00	0.00	0.00	0.00	0.00	4.88
		49	**shelt**	**mean**	**10.81**	**0.00**	**1.22**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**
				std	24.18	0.00	2.69	0.00	0.00	0.00	0.06	0.00	0.00
Makira	**Ugi**	**50**	**exp**	**mean**	**14.70**	**133.75**	**652.32**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**6.69**
				std	32.88	211.82	1432.07	0.00	0.00	0.00	0.00	0.00	11.85

					snappers				groupers				
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	***Aprion***	***Lutjanus***	***Macolor***	***Symphorichthys***	***Cephalopholis***	***Cromileptes***	***Epinephelus***	***Plectropomus***	***Variola***
	Ugi (con't)	**51**	**shelt**	**mean**	**0.00**	**15.73**	**81.73**	**0.00**	**0.12**	**0.00**	**1.38**	**0.00**	**0.93**
				std	0.00	24.14	111.95	0.00	0.27	0.00	3.05	0.00	2.07
Malaita	**Malaita**	**52**	**shelt**	**mean**	**0.00**	**0.74**	**26.61**	**0.00**	**0.12**	**0.00**	**0.81**	**16.68**	**0.00**
				std	0.00	1.65	59.51	0.00	0.27	0.00	1.81	32.69	0.00
		53	**exp**	**mean**	**0.00**	**129.71**	**62.92**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**12.74**
				std	0.00	163.08	120.54	0.00	0.00	0.00	0.00	0.00	15.65
		54	**shelt**	**mean**	**0.00**	**0.00**	**0.27**	**0.00**	**0.00**	**0.00**	**2.04**	**8.66**	**0.00**
				std	0.00	0.00	0.61	0.00	0.00	0.00	3.05	8.33	0.00
		55	**exp**	**mean**	**52.51**	**83.61**	**385.87**	**0.00**	**0.00**	**0.00**	**0.00**	**29.24**	**0.00**
				std	90.29	110.20	528.10	0.00	0.00	0.00	0.00	43.96	0.00
		56	**exp**	**mean**	**0.00**	**0.00**	**3.28**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
				std	0.00	0.00	3.12	0.00	0.00	0.00	0.00	0.00	0.00
		57	**shelt**	**mean**	**0.00**	**3.06**	**128.16**	**0.00**	**0.43**	**0.00**	**1.16**	**12.18**	**0.93**
				std	0.00	6.84	253.10	0.00	0.97	0.00	1.79	13.75	2.07
		58	**exp**	**mean**	**0.00**	**77.73**	**204.63**	**0.00**	**2.42**	**0.00**	**0.00**	**0.00**	**0.93**
				std	0.00	86.13	457.50	0.00	5.41	0.00	0.00	0.00	2.07
		59	**shelt**	**mean**	**0.00**	**22.91**	**4.95**	**0.00**	**7.14**	**0.00**	**11.89**	**1.32**	**0.00**
				std	0.00	41.31	8.24	0.00	9.89	0.00	26.59	2.94	0.00
		60	**exp**	**mean**	**0.00**	**0.00**	**4.28**	**0.00**	**0.72**	**0.00**	**0.00**	**0.00**	**3.58**
				std	0.00	0.00	4.92	0.00	1.61	0.00	0.00	0.00	5.16
		61	**shelt**	**mean**	**0.00**	**28.58**	**19.32**	**0.00**	**0.00**	**0.00**	**0.00**	**14.96**	**0.00**
				std	0.00	63.90	43.21	0.00	0.00	0.00	0.00	33.44	0.00
Western	**New Georgia**	**29**	**exp**	**mean**	**43.25**	**896.47**	**1013.95**	**0.00**	**0.00**	**0.00**	**0.00**	**71.79**	**3.71**
				std	70.49	801.80	1826.84	0.00	0.00	0.00	0.00	117.00	8.30
		30	**exp**	**mean**	**0.00**	**18.21**	**159.20**	**0.00**	**0.43**	**0.00**	**3.41**	**12.40**	**0.93**
				std	0.00	22.75	202.99	0.00	0.97	0.00	7.63	27.72	2.07
		31	**shelt**	**mean**	**0.00**	**0.43**	**5.93**	**0.00**	**3.18**	**0.00**	**0.00**	**14.83**	**0.00**
				std	0.00	0.96	9.19	0.00	3.49	0.00	0.00	20.03	0.00
		32	**exp**	**mean**	**0.00**	**1948.37**	**135.16**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**34.56**
				std	0.00	2536.98	235.88	0.00	0.00	0.00	0.00	0.00	77.29

					snappers				groupers				
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	***Aprion***	***Lutjanus***	***Macolor***	***Symphorichthys***	***Cephalopholis***	***Cromileptes***	***Epinephelus***	***Plectropomus***	***Variola***
	New Georgia (con't)	**33**	**exp**	**mean**	**0.00**	**347.12**	**185.76**	**0.00**	**6.03**	**0.77**	**0.00**	**20.22**	**0.00**
				std	0.00	372.90	205.99	0.00	8.30	1.72	0.00	45.22	0.00
		34	**exp**	**mean**	0.00	108.62	2.79	2.33	0.41	0.00	0.00	3.03	0.00
				std	0.00	111.27	4.94	5.22	0.91	0.00	0.00	6.78	0.00
		35	**shelt**	**mean**	**0.00**	**29.71**	**152.23**	**0.00**	**1.28**	**0.00**	**0.00**	**8.09**	**0.00**
				std	0.00	65.23	332.67	0.00	2.86	0.00	0.00	11.08	0.00
		36	**exp**	**mean**	**0.00**	**21.23**	**49.59**	**0.00**	**0.81**	**0.00**	**0.00**	**27.88**	**0.00**
				std	0.00	23.19	71.68	0.00	1.11	0.00	0.00	46.97	0.00
		37	**shelt**	**mean**	**63.43**	**25.13**	**75.13**	**0.00**	**0.43**	**0.00**	**0.35**	**13.78**	**5.17**
				std	127.82	32.21	103.09	0.00	0.97	0.00	0.78	16.53	7.53
Western	**Shortlands**	**25**	**exp**	**mean**	**0.00**	**199.55**	**42.07**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**28.98**
				std	0.00	300.65	54.26	0.00	0.00	0.00	0.00	0.00	34.79
		26	**shelt**	**mean**	**0.44**	**40.25**	**0.00**	**0.00**	**11.08**	**0.00**	**0.67**	**0.00**	**0.00**
				std	0.98	44.45	0.00	0.00	22.37	0.00	1.50	0.00	0.00
		27	**exp**	**mean**	**0.00**	**4495.51**	**5861.55**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
				std	0.00	4762.97	12853.90	0.00	0.00	0.00	0.00	0.00	0.00
		28	**shelt**	**mean**	**0.00**	**3.19**	**0.00**	**0.00**	**0.87**	**0.00**	**0.98**	**0.00**	**0.86**
				std	0.00	4.99	0.00	0.00	1.19	0.00	2.20	0.00	0.96

Appendix 11. Mean biomass of each genera of food fishes in four key families (parrotfishes, surgeonfishes, emperors and fusiliers) of reef fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

					parrotfishes			surgeonfishes			emperors		fusiliers
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	***Bolbometopon***	***Chlorurus***	***Hipposcarus***	***Acanthurus***	***Ctenochaetus***	***Naso***	***Lethrinus***	***Monotaxis***	***Caesio***
Central	**Floridas**	**1**	**shelt**	**mean**	**0.00**	**35.79**	**25.98**	**0.00**	**18.79**	**8.38**	**4.91**	**7.03**	**0.00**
				std	0.00	49.84	28.14	0.00	11.50	13.79	10.97	15.71	0.00
		2	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**13.12**	**130.18**	**11.65**	**0.00**	**0.00**	**133.93**
				std	0.00	0.00	0.00	21.33	115.63	6.84	0.00	0.00	**133.83**
		62	**exp**	**mean**	**229.89**	**5.33**	**0.00**	**11.80**	**5.56**	**0.00**	**0.00**	**0.00**	**43.41**
				std	514.06	11.91	0.00	18.26	10.53	0.00	0.00	0.00	67.52
		63	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**3.37**	**10.29**	**0.00**	**0.49**	**1.61**
				std	0.00	0.00	0.00	0.00	4.89	7.68	0.00	0.49	1.58
Central	**Russells**	**38**	**exp**	**mean**	**215.03**	**195.74**	**2.89**	**55.18**	**12.62**	**97.82**	**53.16**	**1110.96**	**224.44**
				std	480.82	86.46	6.47	77.98	3.67	189.82	114.60	669.89	347.44
		39	**shelt**	**mean**	**0.00**	**20.56**	**255.15**	**29.53**	**12.18**	**6.05**	**1.03**	**20.19**	**0.00**
				std	0.00	20.81	178.02	43.39	5.38	7.67	1.41	6.66	0.00
		40	**exp**	**mean**	**114.95**	**20.28**	**61.81**	**90.76**	**18.55**	**11.83**	**19.50**	**307.85**	**0.00**
				std	257.03	45.35	69.93	91.73	7.83	9.47	23.96	520.24	0.00
		41	**shelt**	**mean**	**0.00**	**162.14**	**899.72**	**72.32**	**6.26**	**5.77**	**23.16**	**277.02**	**52.78**
				std	0.00	242.53	1922.81	152.13	5.13	4.82	41.32	484.67	118.03
Central	**Savo**	**64**	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**21.85**	**36.06**	**7.68**	**21.27**	**107.34**	**0.00**
				std	0.00	0.00	0.00	48.87	22.63	7.45	19.72	119.89	0.00
Choiseul	**Choiseul**	**17**	**exp**	**mean**	**181.01**	**31.17**	**654.85**	**282.21**	**93.03**	**279.78**	**25.23**	**456.54**	**112.15**
				std	404.75	43.74	626.36	251.42	82.45	100.51	49.23	716.06	205.82
		18	**shelt**	**mean**	**90.51**	**0.00**	**0.00**	**8.73**	**37.06**	**3.95**	**13.29**	**90.13**	**56.27**
				std	202.38	0.00	0.00	19.53	13.76	8.82	26.04	104.01	48.89
		19	**shelt**	**mean**	**12.29**	**0.00**	**0.00**	**0.00**	**31.00**	**0.00**	**2.06**	**13.13**	**275.16**
				std	27.47	0.00	0.00	0.00	9.23	0.00	1.15	7.47	75.97
		20	**exp**	**mean**	**0.00**	**13.65**	**1008.51**	**10.96**	**51.78**	**55.06**	**1.54**	**55.72**	**252.89**
				std	0.00	18.90	1809.44	19.91	38.24	64.58	1.41	46.42	363.87

					parrotfishes			surgeonfishes			emperors		fusiliers
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	***Bolbometopon***	***Chlorurus***	***Hipposcarus***	***Acanthurus***	***Ctenochaetus***	***Naso***	***Lethrinus***	***Monotaxis***	***Caesio***
	Choiseul (con't)	**21**	**exp**	**mean**	**2483.05**	**0.00**	**0.00**	**637.29**	**41.46**	**727.37**	**58.73**	**101.24**	**0.00**
				std	1616.31	0.00	0.00	247.99	15.76	558.79	54.01	124.98	0.00
		22	**shelt**	**mean**	**1941.68**	**5.77**	**0.00**	**12.64**	**39.76**	**0.00**	**15.47**	**122.23**	**0.00**
				std	3274.84	12.90	0.00	18.72	16.08	0.00	34.60	194.30	0.00
		23	**exp**	**mean**	**0.00**	**55.80**	**0.00**	**26.93**	**80.18**	**18.71**	**82.58**	**30.02**	**116.81**
				std	0.00	74.43	0.00	50.91	41.78	14.44	118.82	18.25	192.78
		24	**shelt**	**mean**	**0.00**	**1.10**	**0.00**	**15.72**	**29.64**	**0.00**	**0.00**	**10.82**	**14.55**
				std	0.00	2.47	0.00	35.15	13.19	0.00	0.00	9.55	22.31
Guadalcanal	**Guadalcanal**	**42**	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**709.34**	**11.93**	**1.52**	**12.39**	**21.96**	**0.00**
				std	0.00	0.00	0.00	1556.07	7.52	3.40	27.69	27.95	0.00
		43	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**9.21**	**3.56**	**0.51**	**87.58**	**1.90**
				std	0.00	0.00	0.00	0.00	4.21	3.86	1.15	137.71	4.24
		65	**exp**	**mean**	**0.00**	**1.15**	**0.00**	**6.00**	**21.88**	**0.00**	**0.00**	**21.44**	**0.00**
				std	0.00	2.58	0.00	8.80	16.63	0.00	0.00	15.01	0.00
		66	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**2.90**	**5.22**	**73.10**	**0.00**	**0.00**	**0.00**
				std	0.00	0.00	0.00	4.61	7.47	163.47	0.00	0.00	0.00
Isabel	**Arnavons**	**15**	**exp**	**mean**	**0.00**	**203.73**	**175.90**	**175.87**	**53.02**	**148.00**	**159.08**	**663.35**	**88.51**
				std	0.00	398.76	225.28	185.34	46.80	148.59	152.07	921.92	138.51
		16	**shelt**	**mean**	**160.41**	**55.35**	**133.38**	**121.68**	**22.72**	**2.03**	**32.73**	**246.48**	**31.45**
				std	358.70	57.16	165.29	225.89	15.68	3.30	51.93	233.75	54.75
Isabel	**Isabel**	**3**	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**35.32**	**109.58**	**17.83**	**1.30**	**11.92**	**208.11**
				std	0.00	0.00	0.00	34.53	115.00	21.10	1.84	26.66	44.39
		4	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**13.80**	**3.40**	**0.00**	**7.49**	**3.26**	**411.54**
				std	0.00	0.00	0.00	30.85	7.61	0.00	13.62	3.73	439.94
		5	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**57.44**	**328.35**	**103.44**	**13.27**	**267.17**	**35.36**
				std	0.00	0.00	0.00	61.49	328.94	198.17	14.53	572.18	69.07
		6	**shelt**	**mean**	**0.00**	**2.72**	**2.00**	**0.74**	**43.58**	**13.80**	**1.15**	**12.25**	**20.23**
				std	0.00	6.09	4.47	1.65	26.97	24.12	0.76	27.38	45.24
		7	**exp**	**mean**	**950.00**	**0.00**	**146.05**	**33.34**	**67.39**	**16.35**	**32.06**	**22.09**	**476.47**
				std	875.00	0.00	142.94	46.10	53.84	17.78	44.68	47.58	737.21

					parrotfishes			surgeonfishes			emperors		fusiliers
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	***Bolbometopon***	***Chlorurus***	***Hipposcarus***	***Acanthurus***	***Ctenochaetus***	***Naso***	***Lethrinus***	***Monotaxis***	***Caesio***
	Isabel (con't)	**8**	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**6.53**	**47.85**	**54.88**	**5.45**	**0.00**	**118.57**
				std	0.00	0.00	0.00	10.68	13.55	32.05	7.05	0.00	169.25
		9	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**63.01**	**115.15**	**0.00**	**0.73**	**0.00**	**5.54**
				std	0.00	0.00	0.00	117.68	82.32	0.00	1.08	0.00	12.39
		10	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**10.82**	**28.60**	**0.00**	**1.84**	**6.40**	**8.72**
				std	0.00	0.00	0.00	20.36	22.48	0.00	1.98	12.54	13.81
		11	**exp**	**mean**	**919.85**	**138.41**	**196.28**	**685.78**	**221.09**	**33.51**	**32.30**	**502.73**	**363.43**
				std	1388.48	203.71	233.92	1035.76	112.82	64.37	68.92	934.85	300.72
		12	**shelt**	**mean**	**0.00**	**0.00**	**10.52**	**15.14**	**0.00**	**0.03**	**0.73**	**7.87**	**20.97**
				std	0.00	0.00	15.86	26.47	0.00	0.07	1.08	4.81	45.65
		13	**exp**	**mean**	**0.00**	**0.00**	**78.28**	**7.10**	**40.50**	**50.88**	**1.57**	**39.21**	**144.46**
				std	0.00	0.00	175.03	10.97	24.48	109.53	3.50	87.68	323.02
		14	**shelt**	**mean**	**0.00**	**0.90**	**27.23**	**229.82**	**19.05**	**11.18**	**5.61**	**198.99**	**570.23**
				std	0.00	2.01	37.97	464.37	10.10	15.82	7.29	278.10	731.67
Makira	**Makira**	**44**	**exp**	**mean**	**1468.91**	**22.87**	**303.20**	**68.01**	**15.13**	**21.41**	**0.00**	**1424.59**	**0.00**
				std	2418.59	51.13	349.88	74.71	19.39	22.54	0.00	2632.75	0.00
		45	**shelt**	**mean**	**6.86**	**24.45**	**30.26**	**166.92**	**1.23**	**12.64**	**0.51**	**8.99**	**3.15**
				std	8.53	32.06	54.75	368.39	2.76	24.24	1.15	12.33	4.39
		46	**exp**	**mean**	**0.00**	**1.15**	**0.00**	**0.00**	**94.54**	**5.25**	**0.51**	**263.19**	**25.29**
				std	0.00	2.58	0.00	0.00	39.49	3.39	1.15	380.67	56.55
		47	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**6.74**	**0.00**	**0.00**	**2.77**	**0.00**
				std	0.00	0.00	0.00	0.00	7.66	0.00	0.00	4.58	0.00
Makira	**Three Sisters**	**48**	**exp**	**mean**	**0.00**	**4.10**	**0.00**	**6.28**	**62.19**	**2.42**	**0.00**	**26.66**	**0.00**
				std	0.00	9.17	0.00	9.86	37.65	3.23	0.00	18.04	0.00
		49	**shelt**	**mean**	**0.00**	**4.10**	**26.69**	**2.99**	**10.49**	**38.56**	**4.51**	**28.93**	**0.00**
				std	0.00	9.17	25.52	6.69	8.07	53.12	8.72	38.17	0.00
Makira	**Ugi**	**50**	**exp**	**mean**	**56.71**	**68.52**	**0.00**	**0.00**	**29.95**	**446.23**	**8.76**	**131.32**	**0.00**
				std	126.80	85.42	0.00	0.00	16.09	601.73	14.01	216.69	0.00
		51	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**13.17**	**36.69**	**4.37**	**21.24**	**7.93**	**0.00**
				std	0.00	0.00	0.00	29.44	23.37	6.86	31.04	10.89	0.00

					parrotfishes			surgeonfishes			emperors		fusiliers
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	***Bolbometopon***	***Chlorurus***	***Hipposcarus***	***Acanthurus***	***Ctenochaetus***	***Naso***	***Lethrinus***	***Monotaxis***	***Caesio***
Malaita	**Malaita**	**52**	**shelt**	**mean**	**0.00**	**0.00**	**1.40**	**3.86**	**21.68**	**0.00**	**0.00**	**2.32**	**107.48**
				std	0.00	0.00	3.14	5.32	22.36	0.00	0.00	2.21	166.67
		53	**exp**	**mean**	**0.00**	**10.94**	**2.89**	**7.85**	**40.01**	**8.24**	**0.51**	**90.03**	**0.00**
				std	0.00	16.80	6.47	17.55	18.68	17.05	1.15	98.93	0.00
		54	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**6.88**	**6.25**	**0.00**	**2.06**	**0.44**	**20.60**
				std	0.00	0.00	0.00	9.42	5.80	0.00	4.60	0.97	44.48
		55	**exp**	**mean**	**0.00**	**15.56**	**11.57**	**135.20**	**89.54**	**62.20**	**0.00**	**34.99**	**0.00**
				std	0.00	25.46	25.87	82.60	36.39	124.31	0.00	65.89	0.00
		56	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**5.03**	**57.61**	**3.92**	**0.00**	**21.89**	**214.32**
				std	0.00	0.00	0.00	11.25	81.37	4.00	0.00	18.56	166.35
		57	**shelt**	**mean**	**0.00**	**53.66**	**1.38**	**0.00**	**173.15**	**22.17**	**0.51**	**4.85**	**0.00**
				std	0.00	119.98	3.09	0.00	117.51	20.15	1.15	7.11	0.00
		58	**exp**	**mean**	**191.58**	**0.00**	**29.04**	**1.75**	**175.37**	**51.15**	**1.03**	**51.55**	**0.00**
				std	428.38	0.00	39.97	3.91	87.67	92.57	1.41	67.28	0.00
		59	**shelt**	**mean**	**69.91**	**0.00**	**0.00**	**0.00**	**114.38**	**22.68**	**20.86**	**28.64**	**6.32**
				std	156.32	0.00	0.00	0.00	49.02	35.45	42.38	58.74	14.14
		60	**exp**	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**24.90**	**63.34**	**2.08**	**2.39**	**5.63**
				std	0.00	0.00	0.00	0.00	15.38	65.04	3.41	3.44	8.39
		61	**shelt**	**mean**	**27.64**	**0.00**	**0.00**	**0.00**	**4.03**	**0.00**	**2.84**	**0.45**	**25.29**
				std	61.80	0.00	0.00	0.00	3.85	0.00	5.06	1.01	56.55
Western	**New Georgia**	**29**	**exp**	**mean**	**0.00**	**139.49**	**1617.88**	**120.44**	**0.00**	**2941.77**	**9.61**	**31.37**	**0.00**
				std	0.00	205.02	2763.10	224.34	0.00	5135.76	21.48	70.14	0.00
		30	**exp**	**mean**	**0.00**	**19.89**	**0.00**	**36.43**	**0.00**	**12.94**	**1.03**	**152.78**	**0.00**
				std	0.00	28.35	0.00	26.10	0.00	20.78	1.41	328.63	0.00
		31	**shelt**	**mean**	**0.00**	**2.99**	**0.00**	**0.00**	**70.55**	**5.45**	**0.90**	**19.42**	**331.16**
				std	0.00	5.53	0.00	0.00	38.17	7.44	2.01	13.93	222.66
		32	**exp**	**mean**	**0.00**	**15.45**	**0.00**	**12.59**	**82.03**	**102.04**	**75.10**	**43.25**	**37.93**
				std	0.00	34.55	0.00	18.04	30.35	175.64	165.06	80.34	84.82
		33	**exp**	**mean**	**0.00**	**4.57**	**740.90**	**18.21**	**6.09**	**4.56**	**0.00**	**81.86**	**401.27**
				std	0.00	10.23	1384.75	24.18	7.45	6.30	0.00	133.09	322.78

					parrotfishes			surgeonfishes			emperors		fusiliers
Province	**Island**	**Site**	**Exposure**	**Mean Biomass (kg/ha)**	***Bolbometopon***	***Chlorurus***	***Hipposcarus***	***Acanthurus***	***Ctenochaetus***	***Naso***	***Lethrinus***	***Monotaxis***	***Caesio***
	New Georgia (con't)	**34**	**exp**	**mean**	**141.77**	**2.46**	**12.89**	**178.03**	**39.96**	**10.63**	**1.54**	**141.98**	**110.97**
				std	144.23	5.50	19.34	313.48	22.04	17.21	1.41	156.50	113.59
		35	**shelt**	**mean**	**0.00**	**69.53**	**0.00**	**10.19**	**19.67**	**334.94**	**3.60**	**3.31**	**1327.67**
				std	0.00	155.48	0.00	18.98	14.44	715.93	3.45	7.40	1348.58
		36	**exp**	**mean**	**31.19**	**49.41**	**334.06**	**10.48**	**33.37**	**33.93**	**2.99**	**123.19**	**350.14**
				std	44.28	71.35	628.68	12.11	21.63	55.61	5.37	180.74	424.23
		37	**shelt**	**mean**	**215.03**	**80.73**	**10.44**	**2.11**	**62.18**	**10.81**	**0.00**	**68.29**	**399.57**
				std	480.82	159.79	23.34	4.73	23.35	6.14	0.00	96.56	615.53
Western	**Shortlands**	**25**	**exp**	**mean**	**0.00**	**20.28**	**0.00**	**479.72**	**83.72**	**82.82**	**41.04**	**0.00**	**50.47**
				std	0.00	45.35	0.00	307.44	51.70	141.77	54.65	0.00	112.86
		26	**shelt**	**mean**	**1113.97**	**121.96**	**0.00**	**0.00**	**91.23**	**0.00**	**4.63**	**9.04**	**26.41**
				std	2490.92	272.71	0.00	0.00	30.48	0.00	4.60	6.30	55.94
		27	**exp**	**mean**	**0.00**	**64.65**	**2399.83**	**3594.54**	**0.00**	**156.32**	**0.00**	**5090.59**	**189.67**
				std	0.00	101.48	2171.04	2289.61	0.00	328.47	0.00	5555.93	424.11
		28	**shelt**	**mean**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.03**	**1.03**	**6.91**	**15.48**
				std	0.00	0.00	0.00	0.06	0.00	0.07	2.30	13.36	30.29

Appendix 12: Mean biomass of three key species tarteted by the live reef food fish trade on sheltered and exposed reef slopes (10m) in the Solomon Islands.

Province	Exposure	Mean Biomass (kg/ha)	Brown-marbled grouper	Camouflage grouper	Squaretail coral grouper
Central	**exp**	**mean**	**0.00**	**0.00**	**2.05**
		std	0.00	0.00	7.26
	shelt	**mean**	**0.00**	**4.08**	**16.81**
		std	0.00	18.25	28.72
Choiseul	**exp**	**mean**	**0.00**	**0.00**	**4.32**
		std	0.00	0.00	14.63
	shelt	**mean**	**1.38**	**0.49**	**0.76**
		std	6.15	2.18	2.77
Guadalcanal	**exp**	**mean**	**0.00**	**0.00**	**0.00**
		std	0.00	0.00	0.00
	shelt	**mean**	**0.00**	**0.00**	**6.21**
		std	0.00	0.00	7.16
Isabel	**exp**	**mean**	**1.18**	**0.00**	**16.14**
		std	7.00	0.00	60.06
	shelt	**mean**	**0.00**	**0.00**	**2.14**
		std	0.00	0.00	5.88
Makira	**exp**	**mean**	**0.00**	**0.00**	**0.00**
		std	0.00	0.00	0.00
	shelt	**mean**	**10.55**	**0.00**	**0.00**
		std	47.17	0.00	0.00
Malaita	**exp**	**mean**	**0.00**	**0.00**	**2.86**
		std	0.00	0.00	8.10
	shelt	**mean**	**2.38**	**0.00**	**2.59**
		std	11.89	0.00	4.92
Western	**exp**	**mean**	**0.00**	**0.43**	**16.86**
		std	0.00	2.70	49.64
	shelt	**mean**	**0.00**	**0.20**	**6.20**
		std	0.00	0.98	13.22

Appendix 13. Mean biomass of large reef fishes (30cm or more in size) of sharks, rays and some key families of bony fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

			Bony Fishes											Sharks & Rays	
Province	Exposure	Mean Biomass (kg/ha)	Emperors	Groupers	Parrotfishes	Rabbitfishes	Drummers	Snappers	Surgeonfishes	Sweetlips	Trevallies	Triggerfishes	Wrasses	Sharks	Rays
Central	**exp**	**mean**	**200.71**	**9.77**	**184.94**	**191.72**	**294.04**	**526.77**	**15.40**	**21.51**	**0.00**	**30.89**	**37.90**	**56.30**	**0.00**
		std	471.90	24.99	343.79	909.96	1243.72	959.42	47.83	47.03	0.00	69.39	101.43	267.45	0.00
	shelt	**mean**	**69.51**	**23.32**	**126.68**	**0.00**	**0.00**	**30.21**	**0.00**	**3.20**	**0.00**	**69.05**	**11.03**	**19.59**	**0.00**
		std	242.52	51.83	175.84	0.00	0.00	43.18	0.00	14.29	0.00	144.14	38.77	62.25	0.00
Choiseul	**exp**	**mean**	**86.98**	**31.26**	**1041.53**	**3.99**	**0.00**	**369.58**	**61.61**	**15.95**	**11.67**	**90.46**	**10.10**	**77.79**	**0.00**
		std	374.95	68.00	1484.50	17.85	0.00	861.90	174.59	39.52	37.65	116.80	27.46	244.72	0.00
	shelt	**mean**	**19.55**	**3.65**	**553.15**	**181.57**	**0.00**	**85.06**	**2.50**	**13.42**	**38.70**	**12.22**	**9.67**	**0.00**	**0.00**
		std	87.43	9.18	1808.70	812.02	0.00	159.04	11.16	36.10	173.05	31.33	25.00	0.00	0.00
Guadalcanal	**exp**	**mean**	**0.00**	**6.21**	**23.48**	**2.66**	**0.00**	**15.10**	**0.00**	**16.52**	**0.00**	**11.09**	**0.00**	**185.15**	**0.00**
		std	0.00	18.00	59.49	10.30	0.00	58.49	0.00	42.47	0.00	22.96	0.00	717.07	0.00
	shelt	**mean**	**0.00**	**0.00**	**55.80**	**0.00**	**0.00**	**95.70**	**0.00**	**0.00**	**0.00**	**11.09**	**0.00**	**27.93**	**135.27**
		std	0.00	0.00	60.45	0.00	0.00	214.00	0.00	0.00	0.00	24.80	0.00	62.46	302.48
Isabel	**exp**	**mean**	**149.58**	**27.37**	**391.86**	**4.56**	**0.00**	**655.61**	**129.38**	**81.23**	**17.26**	**374.88**	**27.93**	**0.00**	**0.00**
		std	592.54	71.18	788.66	26.98	0.00	1550.02	431.88	205.73	52.58	1039.02	80.50	0.00	0.00
	shelt	**mean**	**16.00**	**13.78**	**42.78**	**0.00**	**1.46**	**41.12**	**0.00**	**40.03**	**8.31**	**3.17**	**19.03**	**3.34**	**0.00**
		std	53.79	53.49	151.29	0.00	8.61	95.10	0.00	139.51	23.91	13.06	106.43	19.77	0.00
Makira	**exp**	**mean**	**325.08**	**5.12**	**494.06**	**0.00**	**191.12**	**1221.82**	**113.82**	**4.31**	**29.65**	**19.54**	**4.54**	**10.37**	**0.00**
		std	1094.35	17.52	1422.09	0.00	854.71	3815.79	315.20	14.06	96.33	55.31	20.31	46.37	0.00
	shelt	**mean**	**5.52**	**15.20**	**48.50**	**0.00**	**0.00**	**24.36**	**11.40**	**0.00**	**61.76**	**21.45**	**0.00**	**322.26**	**0.00**
		std	17.53	48.50	90.05	0.00	0.00	67.28	30.24	0.00	223.98	83.81	0.00	1261.52	0.00
Malaita	**exp**	**mean**	**15.12**	**9.07**	**79.78**	**3.19**	**18.35**	**147.32**	**25.43**	**138.02**	**10.70**	**3.09**	**34.48**	**0.00**	**4487.05**
		std	41.01	23.73	209.20	15.96	57.75	334.28	54.15	349.10	53.49	15.46	80.80	0.00	22435.27
	shelt	**mean**	**3.76**	**9.78**	**38.50**	**0.00**	**0.00**	**44.23**	**0.00**	**12.44**	**7.18**	**0.00**	**0.00**	**0.00**	**0.00**
		std	18.80	23.80	89.30	0.00	0.00	124.68	0.00	36.27	22.07	0.00	0.00	0.00	0.00
Western	**exp**	**mean**	**665.68**	**24.23**	**423.48**	**0.00**	**3.13**	**1428.76**	**464.59**	**12.44**	**0.86**	**44.24**	**15.36**	**286.32**	**0.00**
		std	2459.94	55.10	1273.41	0.00	19.80	4917.59	1990.20	40.58	5.43	101.19	47.91	924.38	0.00
	shelt	**mean**	**0.00**	**6.55**	**328.71**	**0.00**	**0.00**	**33.68**	**51.58**	**0.00**	**178.86**	**21.16**	**4.05**	**285.60**	**0.00**
		std	0.00	13.69	1241.05	0.00	0.00	97.56	257.91	0.00	894.28	68.20	11.44	996.79	0.00

Appendix 14. Mean density of large vulnerable reef fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands

			BONY FISHES													SHARKS & RAYS				
Province	**Exposure**	**Mean Density (per ha)**	**Humphead Wrasse**	**Humphead Parrotfish**	**Steephead Parrotfish**	**Giant Trevally**	**Baramundi Cod**	**Brown-marbled grouper**	**Camouflage grouper**	**White-edged lyretail**	**Yellow-edged lyretail**	**Longfin emperor**	**Longface emperor**	**Spotcheek emperor**	**Yellowlip emperor**	**Manta rays**	**Spotted eagle ray**	**Blacktip Reef Shark**	**White Tip Reef Shark**	**Unid Shark**
Central	**exp**	**mean**	**0.53**	**0.80**	**1.33**	**0.00**	**0.00**	**0.00**	**0.27**	**0.53**	**5.07**	**2.13**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		sd	0.73	1.79	2.98	0.00	0.00	0.00	0.60	0.73	9.26	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	shelt	**mean**	**2.67**	**0.00**	**1.00**	**0.00**	**0.00**	**1.33**	**0.33**	**0.33**	**0.33**	**1.67**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		sd	3.77	0.00	2.00	0.00	0.00	2.67	0.67	0.67	0.67	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Choiseul	**exp**	**mean**	**3.33**	**0.67**	**3.67**	**0.00**	**0.00**	**0.33**	**0.00**	**0.00**	**8.00**	**3.00**	**0.00**	**3.67**	**1.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		sd	5.81	1.33	4.27	0.00	0.00	0.67	0.00	0.00	11.98	2.00	0.00	7.33	2.00	0.00	0.00	0.00	0.00	0.00
	shelt	**mean**	**0.33**	**0.67**	**0.33**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.00**	**4.00**	**0.00**	**0.67**	**0.00**	**0.00**	**0.00**	**0.00**	**0.33**	**0.00**
		sd	0.67	0.77	0.67	0.00	0.00	0.00	0.00	0.00	1.72	4.75	0.00	1.33	0.00	0.00	0.00	0.00	0.67	0.00
Guadalcanal	**exp**	**mean**	**1.78**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**4.45**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.33**	**0.00**
		sd	3.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.31	0.00
	shelt	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.67**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		sd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Isabel	**exp**	**mean**	**1.33**	**2.67**	**1.33**	**0.00**	**0.19**	**0.00**	**0.00**	**0.00**	**4.76**	**0.57**	**0.57**	**0.95**	**0.00**	**0.00**	**0.19**	**0.00**	**0.00**	**0.00**
		sd	1.54	5.11	1.89	0.00	0.50	0.00	0.00	0.00	8.43	1.05	1.51	1.99	0.00	0.00	0.50	0.00	0.00	0.00
	shelt	**mean**	**0.38**	**0.38**	**0.38**	**0.19**	**0.00**	**0.19**	**0.38**	**1.71**	**3.24**	**5.14**	**1.14**	**1.14**	**0.00**	**0.00**	**0.19**	**0.00**	**0.00**	**0.00**
		sd	1.01	1.01	1.01	0.50	0.00	0.50	0.65	2.63	4.61	9.28	1.95	1.62	0.00	0.00	0.50	0.00	0.00	0.00
Makira	**exp**	**mean**	**2.00**	**0.33**	**0.67**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.33**	**3.33**	**0.00**	**1.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.33**	**0.00**
		sd	4.00	0.67	0.77	0.00	0.00	0.00	0.00	0.00	1.09	3.85	0.00	2.00	0.00	0.00	0.00	0.00	0.67	0.00
	shelt	**mean**	**0.00**	**0.00**	**4.00**	**0.00**	**0.00**	**0.00**	**0.67**	**1.33**	**1.00**	**4.00**	**17.33**	**1.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		sd	0.00	0.00	7.14	0.00	0.00	0.00	1.33	2.67	2.00	5.44	25.83	2.00	0.00	0.00	0.00	0.00	0.00	0.00
Malaita	**exp**	**mean**	**0.53**	**1.33**	**0.27**	**0.00**	**0.00**	**0.00**	**1.33**	**0.00**	**1.33**	**0.80**	**2.93**	**2.67**	**0.80**	**0.00**	**0.00**	**0.00**	**0.53**	**0.00**
		sd	1.19	2.98	0.60	0.00	0.00	0.00	2.98	0.00	2.31	1.19	6.56	3.77	1.79	0.00	0.00	0.00	1.19	0.00
	shelt	**mean**	**0.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.27**	**0.00**	**1.07**	**0.80**	**1.07**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		sd	0.60	0.00	0.00	0.00	0.00	0.60	0.00	1.74	1.79	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

				BONY FISHES										SHARKS & RAYS			
Province	Exposure	Mean Density (per ha)	Humphead Wrasse	Humphead Parrotfish	Steephead Parrotfish	Giant Trevally	Barramundi Cod	Brown-marbled grouper	Camouflage grouper	White-edged lyretail	Yellow-edged lyretail	Longfin emperor	Longface emperor	Spotcheek emperor	Yellowlip emperor	Manta rays	Spotted eagle ray	Blacktip Reef Shark	White Tip Reef Shark	Unid Shark
Western	exp	mean	**2.17**	**7.33**	**3.33**	**0.00**	**0.00**	**0.00**	**0.00**	**0.50**	**1.33**	**1.83**	**0.83**	**0.83**	**0.00**	**0.17**	**0.00**	**0.17**	**0.00**	**0.00**
		sd	1.74	11.93	5.19	0.00	0.00	0.00	0.00	0.69	1.59	2.46	1.41	1.88	0.00	0.47	0.00	0.47	0.00	0.00
	shelt	mean	**0.00**	**0.00**	**1.33**	**0.00**	**0.00**	**0.27**	**0.00**	**0.00**	**1.07**	**1.07**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.27**	**0.27**
		sd	0.00	0.00	2.98	0.00	0.00	0.60	0.00	0.00	1.74	2.39	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.60

Appendix 15. Mean biomass of large vulnerable reef fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

			BONY FISHES													SHARKS & RAYS				
Province	Exposure	Mean Biomass (kg/ha)	Humphead Wrasse	Humphead Parrotfish	Steephead Parrotfish	Giant Trevally	Baramundi Cod	Brown-marbled Grouper	Camouflage Grouper	White-edged Lyretail	Yellow-edged Lyretail	Longfin Emperor	Longface Emperor	Spotcheek Emperor	Yellowlip Emperor	Manta Ray	Spotted Eagle Ray	Blacktip Reef Shark	Whitetip Reef Shark	Unid Shark
Central	**exp**	**mean**	**1.02**	**3.57**	**0.55**	**0.00**	**0.00**	**0.00**	**0.01**	**0.40**	**1.29**	**0.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		sd	1.44	7.98	1.23	0.00	0.00	0.00	0.02	0.88	2.69	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	shelt	**mean**	**3.55**	**0.00**	**0.53**	**0.00**	**0.00**	**1.98**	**0.04**	**0.03**	**0.02**	**0.11**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		sd	6.90	0.00	1.05	0.00	0.00	3.96	0.08	0.06	0.03	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Choiseul	**exp**	**mean**	**23.90**	**10.58**	**1.48**	**0.00**	**0.00**	**0.50**	**0.00**	**0.00**	**2.48**	**0.18**	**0.00**	**1.86**	**0.51**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		sd	46.91	21.15	1.72	0.00	0.00	0.99	0.00	0.00	3.86	0.12	0.00	3.73	1.01	0.00	0.00	0.00	0.00	0.00
	shelt	**mean**	**0.11**	**9.75**	**0.32**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.35**	**0.27**	**0.00**	**0.11**	**0.00**	**0.00**	**0.00**	**0.00**	**6.72**	**0.00**
		sd	0.23	17.46	0.64	0.00	0.00	0.00	0.00	0.00	0.27	0.29	0.00	0.22	0.00	0.00	0.00	0.00	13.44	0.00
Guadalcanal	**exp**	**mean**	**4.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.73**	**0.00**	**0.00**	**0.66**	**0.00**	**0.00**	**0.00**	**0.00**	**10.53**	**0.00**
		sd	8.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	0.00	0.00	1.15	0.00	0.00	0.00	0.00	18.25	0.00
	shelt	**mean**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		sd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Isabel	**exp**	**mean**	**3.00**	**33.81**	**0.64**	**0.00**	**0.06**	**0.00**	**0.00**	**0.00**	**0.57**	**0.05**	**0.14**	**0.20**	**0.00**	**0.00**	**1.88**	**0.00**	**0.00**	**0.00**
		sd	4.82	64.56	1.06	0.00	0.16	0.00	0.00	0.00	1.08	0.11	0.37	0.44	0.00	0.00	4.96	0.00	0.00	0.00
	shelt	**mean**	**0.23**	**1.85**	**0.37**	**0.06**	**0.00**	**0.13**	**0.19**	**0.66**	**0.52**	**0.33**	**0.73**	**0.08**	**0.00**	**0.00**	**3.22**	**0.00**	**0.00**	**0.00**
		sd	0.62	4.89	0.97	0.17	0.00	0.35	0.44	1.32	0.77	0.60	1.32	0.14	0.00	0.00	8.52	0.00	0.00	0.00
Makira	**exp**	**mean**	**0.93**	**10.77**	**0.38**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.19**	**0.38**	**0.00**	**0.36**	**0.00**	**0.00**	**0.00**	**0.00**	**0.32**	**0.00**
		sd	1.86	21.55	0.44	0.00	0.00	0.00	0.00	0.00	0.29	0.51	0.00	0.72	0.00	0.00	0.00	0.00	0.63	0.00
	shelt	**mean**	**0.00**	**0.00**	**1.79**	**0.00**	**0.00**	**0.00**	**0.08**	**0.09**	**0.01**	**0.25**	**15.65**	**0.20**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		sd	0.00	0.00	3.46	0.00	0.00	0.00	0.16	0.18	0.03	0.35	28.64	0.40	0.00	0.00	0.00	0.00	0.00	0.00
Malaita	**exp**	**mean**	**0.29**	**7.39**	**0.26**	**0.00**	**0.00**	**0.00**	**0.57**	**0.00**	**0.29**	**0.08**	**1.14**	**1.32**	**0.41**	**0.00**	**0.00**	**0.00**	**2.76**	**0.00**
		sd	0.66	16.52	0.58	0.00	0.00	0.00	1.27	0.00	0.63	0.13	2.55	1.96	0.91	0.00	0.00	0.00	6.17	0.00
	shelt	**mean**	**0.09**	**0.00**	**0.00**	**0.00**	**0.00**	**0.55**	**0.00**	**0.08**	**0.19**	**0.07**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		sd	0.20	0.00	0.00	0.00	0.00	1.22	0.00	0.14	0.42	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			BONY FISHES										SHARKS & RAYS			
Province	Exposure	Mean Biomass (kg/ha)	Humphead Wrasse	Humphead Parrotfish	Steephead Parrotfish	Giant Trevally	Barramundi Cod	Brown-marbled Grouper	Camouflage Grouper	White-edged Lyretail	Yellow-edged Lyretail	Longfin Emperor	Longface Emperor	Spotcheek Emperor	Yellowlip Emperor	Manta Ray	Spotted Eagle Ray	Blacktip Reef Shark	Whitetip Reef Shark	Unid Shark
Western	**exp**	**mean**	**10.42**	**103.02**	**3.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.29**	**0.53**	**0.12**	**1.26**	**0.38**	**0.00**	**51.50**	**0.00**	**1.92**	**0.00**	**0.00**
		sd	12.37	197.92	4.79	0.00	0.00	0.00	0.00	0.53	1.08	0.16	2.37	0.93	0.00	145.66	0.00	5.42	0.00	0.00
	shelt	**mean**	**0.00**	**0.00**	**1.29**	**0.00**	**0.00**	**0.24**	**0.00**	**0.00**	**0.43**	**0.07**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.35**	**7.28**
		sd	0.00	0.00	2.88	0.00	0.00	0.53	0.00	0.00	0.81	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.78	16.29

Appendix 16. Mean density of aquarium fishes on sheltered and exposed reef slopes (10m) in the Solomon Islands.

Province	Island	Site	Exposure	Mean Density (per ha)	Angelfishes	Butterflyfishes	Damselfishes	Fairy basslets	Hawkfishes	Leatherjackets	Parrotfishes	Puffers	Surgeonfishes	Sweetlips	Triggerfishes	Wrasses
Central	**Floridas**	**1**	**shelt**	**mean**	**346.67**	**40.00**	**2840.00**	**173.33**	**0.00**	**0.00**	**0.00**	**0.00**	**26.67**	**0.00**	**13.33**	**960.00**
				std	152.02	59.63	1762.32	238.51	0.00	0.00	0.00	0.00	36.51	0.00	29.81	1121.11
		2	**exp**	**mean**	**106.67**	**466.67**	**7013.33**	**93.33**	**13.33**	**0.00**	**0.00**	**0.00**	**693.33**	**253.33**	**0.00**	**746.67**
				std	173.85	194.37	6630.80	101.11	29.81	0.00	0.00	0.00	138.24	186.43	0.00	425.31
		62	**exp**	**mean**	**560.00**	**160.00**	**4200.00**	**2842.67**	**0.00**	**0.00**	**0.00**	**0.00**	**346.67**	**0.00**	**40.00**	**10093.33**
				std	417.93	203.31	5525.70	3596.09	0.00	0.00	0.00	0.00	694.17	0.00	59.63	4849.65
		63	**shelt**	**mean**	**120.00**	**280.00**	**4733.33**	**40.00**	**0.00**	**0.00**	**13.33**	**0.00**	**26.67**	**21.33**	**0.00**	**480.00**
				std	128.24	218.07	1935.06	59.63	0.00	0.00	29.81	0.00	59.63	47.70	0.00	237.58
Central	**Russells**	**38**	**exp**	**mean**	**80.00**	**440.00**	**33733.33**	**3813.33**	**40.00**	**0.00**	**53.33**	**0.00**	**792.00**	**120.00**	**80.00**	**426.67**
				std	86.92	417.93	19366.92	4416.48	59.63	0.00	86.92	0.00	309.35	74.83	93.81	138.24
		39	**shelt**	**mean**	**66.67**	**346.67**	**25200.00**	**40.00**	**0.00**	**0.00**	**0.00**	**0.00**	**218.67**	**0.00**	**0.00**	**613.33**
				std	47.14	196.64	8342.00	36.51	0.00	0.00	0.00	0.00	249.91	0.00	0.00	159.16
		40	**exp**	**mean**	**80.00**	**640.00**	**15133.33**	**810.67**	**13.33**	**0.00**	**0.00**	**0.00**	**562.67**	**16.00**	**32.00**	**853.33**
				std	86.92	243.13	6555.74	1187.39	29.81	0.00	0.00	0.00	320.61	21.91	52.15	508.59
		41	**shelt**	**mean**	**120.00**	**280.00**	**17733.33**	**4034.67**	**0.00**	**0.00**	**13.33**	**0.00**	**469.33**	**0.00**	**106.67**	**613.33**
				std	119.26	251.22	9869.71	2996.33	0.00	0.00	29.81	0.00	491.29	0.00	80.55	620.75
Central	**Savo**	**64**	**exp**	**mean**	**240.00**	**733.33**	**17933.33**	**3218.67**	**66.67**	**0.00**	**0.00**	**13.33**	**826.67**	**32.00**	**101.33**	**1080.00**
				std	111.55	188.56	11793.12	4916.00	47.14	0.00	0.00	29.81	851.93	52.15	143.79	477.03
Choiseul	**Choiseul**	**17**	**exp**	**mean**	**173.33**	**360.00**	**6266.67**	**949.33**	**106.67**	**0.00**	**0.00**	**0.00**	**1544.00**	**120.00**	**192.00**	**1826.67**
				std	101.11	273.25	6580.27	1683.39	101.11	0.00	0.00	0.00	1416.27	164.92	114.93	1098.08
		18	**shelt**	**mean**	**440.00**	**386.67**	**47933.33**	**1632.00**	**13.33**	**0.00**	**0.00**	**0.00**	**280.00**	**32.00**	**37.33**	**733.33**
				std	192.06	136.63	44995.31	2090.58	29.81	0.00	0.00	0.00	196.64	71.55	54.49	290.59
		19	**shelt**	**mean**	**173.33**	**293.33**	**12266.67**	**96.00**	**0.00**	**0.00**	**0.00**	**0.00**	**133.33**	**8.00**	**8.00**	**560.00**
				std	89.44	292.88	6121.00	75.07	0.00	0.00	0.00	0.00	47.14	17.89	17.89	197.77
		20	**exp**	**mean**	**173.33**	**640.00**	**6266.67**	**34.67**	**26.67**	**13.33**	**0.00**	**0.00**	**776.00**	**53.33**	**16.00**	**613.33**
				std	129.96	129.96	3226.63	49.53	36.51	29.81	0.00	0.00	353.70	77.17	35.78	232.86
		21	**exp**	**mean**	**253.33**	**400.00**	**8213.33**	**1229.33**	**160.00**	**0.00**	**0.00**	**0.00**	**6453.33**	**40.00**	**3320.00**	**6426.67**
				std	128.24	188.56	5868.45	1045.18	111.55	0.00	0.00	0.00	2447.40	69.28	2685.17	7503.72
		22	**shelt**	**mean**	**546.67**	**533.33**	**6933.33**	**104.00**	**0.00**	**0.00**	**186.67**	**0.00**	**664.00**	**165.33**	**16.00**	**1773.33**
				std	331.33	339.93	10441.37	137.40	0.00	0.00	280.48	0.00	426.40	186.09	35.78	2326.94

Province	Island	Site	Exposure	Mean Density (per ha)		Angelfishes	Butterflyfishes	Damselfishes	Fairy basslets	Hawkfishes	Leatherjackets	Parrotfishes	Puffers	Surgeonfishes	Sweetlips	Triggerfishes	Wrasses
	Choiseul (con't)	23	exp	mean		**173.33**	**560.00**	**6466.67**	**480.00**	**120.00**	**0.00**	**0.00**	**0.00**	**592.00**	**56.00**	**0.00**	**1000.00**
				std		129.96	269.16	4337.18	963.74	73.03	0.00	0.00	0.00	212.62	66.93	0.00	258.20
		24	shelt	mean		**40.00**	**320.00**	**4600.00**	**21.33**	**0.00**	**0.00**	**0.00**	**0.00**	**53.33**	**0.00**	**0.00**	**1786.67**
				std		59.63	228.04	2994.44	47.70	0.00	0.00	0.00	0.00	55.78	0.00	0.00	378.30
Guadalcanal	**Guadalcanal**	**42**	**exp**	**mean**		**640.00**	**160.00**	**7200.00**	**440.00**	**93.33**	**0.00**	**0.00**	**0.00**	**2200.00**	**0.00**	**88.00**	**2386.67**
				std		341.89	138.24	10720.18	451.17	76.01	0.00	0.00	0.00	3325.47	0.00	47.70	1963.22
		43	**shelt**	**mean**		**226.67**	**506.67**	**6800.00**	**552.00**	**0.00**	**0.00**	**40.00**	**13.33**	**13.33**	**8.00**	**21.33**	**466.67**
				std		138.24	498.00	3602.47	1055.97	0.00	0.00	36.51	29.81	29.81	17.89	30.70	194.37
		65	**exp**	**mean**		**346.67**	**400.00**	**1333.33**	**13.33**	**0.00**	**0.00**	**0.00**	**0.00**	**800.00**	**237.33**	**24.00**	**386.67**
				std		159.16	235.70	2260.78	29.81	0.00	0.00	0.00	0.00	253.86	381.39	21.91	73.03
		66	**exp**	**mean**		**266.67**	**26.67**	**133.33**	**154.67**	**0.00**	**0.00**	**0.00**	**13.33**	**93.33**	**0.00**	**93.33**	**4706.67**
				std		216.02	36.51	182.57	200.13	0.00	0.00	0.00	29.81	129.96	0.00	59.63	4791.57
Isabel	**Arnavons**	**15**	**exp**	**mean**		**93.33**	**266.67**	**10066.67**	**74.67**	**0.00**	**0.00**	**13.33**	**0.00**	**917.33**	**301.33**	**48.00**	**5106.67**
				std		59.63	182.57	4996.67	83.59	0.00	0.00	29.81	0.00	824.00	294.03	65.73	6492.83
		16	**shelt**	**mean**		**160.00**	**426.67**	**8466.67**	**50.67**	**0.00**	**0.00**	**13.33**	**0.00**	**725.33**	**240.00**	**0.00**	**1066.67**
				std		121.11	256.47	10825.89	51.12	0.00	0.00	29.81	0.00	958.41	173.08	0.00	609.19
Isabel	**Isabel**	**3**	**exp**	**mean**		**106.67**	**306.67**	**3533.33**	**40.00**	**26.67**	**26.67**	**0.00**	**0.00**	**341.33**	**112.00**	**0.00**	**840.00**
				std		111.55	252.10	5781.20	56.57	36.51	59.63	0.00	0.00	255.19	148.05	0.00	1024.80
		4	**shelt**	**mean**		**120.00**	**440.00**	**5440.00**	**218.67**	**0.00**	**0.00**	**13.33**	**40.00**	**53.33**	**109.33**	**0.00**	**413.33**
				std		86.92	296.65	1872.97	152.78	0.00	0.00	29.81	36.51	119.26	116.77	0.00	207.63
		5	**exp**	**mean**		**26.67**	**533.33**	**10733.33**	**0.00**	**13.33**	**0.00**	**0.00**	**0.00**	**946.67**	**45.33**	**88.00**	**600.00**
				std		59.63	286.74	6767.57	0.00	29.81	0.00	0.00	0.00	620.75	47.70	111.00	124.72
		6	**shelt**	**mean**		**160.00**	**413.33**	**4000.00**	**77.33**	**13.33**	**0.00**	**0.00**	**0.00**	**256.00**	**0.00**	**0.00**	**1120.00**
				std		111.55	341.24	1929.31	116.77	29.81	0.00	0.00	0.00	238.77	0.00	0.00	1067.08
		7	**exp**	**mean**		**80.00**	**666.67**	**23000.00**	**146.67**	**13.33**	**13.33**	**0.00**	**0.00**	**498.67**	**232.00**	**32.00**	**773.33**
				std		73.03	429.47	11105.55	292.12	29.81	29.81	0.00	0.00	264.26	355.35	52.15	153.48
		8	**shelt**	**mean**		**66.67**	**80.00**	**19733.33**	**221.33**	**0.00**	**0.00**	**0.00**	**0.00**	**408.00**	**0.00**	**154.67**	**613.33**
				std		66.67	86.92	4009.71	143.17	0.00	0.00	0.00	0.00	110.59	0.00	287.61	548.53
		9	**exp**	**mean**		**146.67**	**160.00**	**1200.00**	**66.67**	**0.00**	**0.00**	**40.00**	**0.00**	**330.67**	**0.00**	**0.00**	**733.33**
				std		119.26	146.06	869.23	94.28	0.00	0.00	59.63	0.00	519.18	0.00	0.00	421.64
		10	**shelt**	**mean**		**80.00**	**106.67**	**7333.33**	**0.00**	**0.00**	**0.00**	**26.67**	**0.00**	**77.33**	**0.00**	**0.00**	**560.00**
				std		86.92	138.24	6032.32	0.00	0.00	0.00	36.51	0.00	80.77	0.00	0.00	566.86

Province	Island	Site	Exposure	Mean Density (per ha)	Angelfishes	Butterflyfishes	Damselfishes	Fairy basslets	Hawkfishes	Leatherjackets	Parrotfishes	Puffers	Surgeonfishes	Sweetlips	Triggerfishes	Wrasses
	Isabel (con't)	**11**	**exp**	**mean**	**66.67**	**186.67**	**6600.00**	**13.33**	**0.00**	**0.00**	**13.33**	**0.00**	**1338.67**	**53.33**	**32.00**	**653.33**
				std	47.14	144.53	3209.36	29.81	0.00	0.00	29.81	0.00	1177.06	55.78	71.55	317.63
		12	**shelt**	**mean**	**26.67**	**93.33**	**6000.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**82.67**	**0.00**	**0.00**	**520.00**
				std	36.51	59.63	1615.89	0.00	0.00	0.00	0.00	0.00	115.24	0.00	0.00	218.07
		13	**exp**	**mean**	**613.33**	**80.00**	**3466.67**	**53.33**	**13.33**	**0.00**	**0.00**	**0.00**	**810.67**	**0.00**	**0.00**	**2786.67**
				std	375.35	119.26	5362.42	55.78	29.81	0.00	0.00	0.00	1628.67	0.00	0.00	1150.27
		14	**shelt**	**mean**	**226.67**	**200.00**	**58266.67**	**37.33**	**0.00**	**0.00**	**0.00**	**0.00**	**1293.33**	**56.00**	**13.33**	**1653.33**
				std	186.19	94.28	69733.38	37.00	0.00	0.00	0.00	0.00	2276.86	61.39	29.81	1177.95
Makira	**Makira**	**44**	**exp**	**mean**	**320.00**	**253.33**	**1600.00**	**13.33**	**133.33**	**0.00**	**13.33**	**0.00**	**408.00**	**0.00**	**21.33**	**933.33**
				std	354.02	272.44	1876.76	29.81	66.67	0.00	29.81	0.00	264.76	0.00	30.70	498.89
		45	**shelt**	**mean**	**146.67**	**293.33**	**66.67**	**16.00**	**0.00**	**0.00**	**26.67**	**13.33**	**432.00**	**0.00**	**0.00**	**426.67**
				std	86.92	138.24	149.07	21.91	0.00	0.00	36.51	29.81	833.23	0.00	0.00	213.96
		46	**exp**	**mean**	**253.33**	**613.33**	**4933.33**	**26.67**	**133.33**	**53.33**	**13.33**	**0.00**	**786.67**	**66.67**	**53.33**	**853.33**
				std	119.26	178.89	3662.12	36.51	81.65	73.03	29.81	0.00	228.04	46.19	55.78	292.12
		47	**shelt**	**mean**	**146.67**	**80.00**	**5866.67**	**42.67**	**0.00**	**0.00**	**0.00**	**13.33**	**40.00**	**0.00**	**0.00**	**986.67**
				std	86.92	55.78	6747.84	45.61	0.00	0.00	0.00	29.81	36.51	0.00	0.00	425.31
Makira	**Three Sisters**	**48**	**exp**	**mean**	**160.00**	**213.33**	**19533.33**	**66.67**	**26.67**	**0.00**	**0.00**	**0.00**	**346.67**	**0.00**	**0.00**	**2200.00**
				std	101.11	73.03	15539.56	94.28	36.51	0.00	0.00	0.00	144.53	0.00	0.00	1939.07
		49	**shelt**	**mean**	**400.00**	**146.67**	**38800.00**	**2453.33**	**0.00**	**0.00**	**0.00**	**0.00**	**173.33**	**0.00**	**106.67**	**7373.33**
				std	432.05	184.99	23687.31	4605.17	0.00	0.00	0.00	0.00	59.63	0.00	85.89	6867.25
Makira	**Ugi**	**50**	**exp**	**mean**	**320.00**	**453.33**	**24133.33**	**1986.67**	**146.67**	**0.00**	**13.33**	**0.00**	**720.00**	**0.00**	**109.33**	**3106.67**
				std	218.07	259.91	12932.73	2678.47	159.16	0.00	29.81	0.00	337.97	0.00	129.07	2265.00
		51	**shelt**	**mean**	**426.67**	**200.00**	**23133.33**	**474.67**	**0.00**	**0.00**	**13.33**	**0.00**	**669.33**	**0.00**	**40.00**	**1813.33**
				std	36.51	205.48	18737.37	639.35	0.00	0.00	29.81	0.00	254.80	0.00	89.44	1426.26
Malaita	**Malaita**	**52**	**shelt**	**mean**	**346.67**	**226.67**	**7866.67**	**8.00**	**0.00**	**0.00**	**13.33**	**0.00**	**128.00**	**0.00**	**146.67**	**933.33**
				std	276.49	186.19	4500.62	17.89	0.00	0.00	29.81	0.00	137.15	0.00	109.54	349.60
		53	**exp**	**mean**	**66.67**	**306.67**	**4400.00**	**26.67**	**40.00**	**0.00**	**0.00**	**0.00**	**266.67**	**0.00**	**13.33**	**813.33**
				std	81.65	101.11	2639.44	36.51	59.63	0.00	0.00	0.00	176.38	0.00	29.81	570.38
		54	**shelt**	**mean**	**93.33**	**200.00**	**1333.33**	**0.00**	**0.00**	**0.00**	**0.00**	**26.67**	**42.67**	**0.00**	**0.00**	**666.67**
				std	111.55	81.65	1452.97	0.00	0.00	0.00	0.00	36.51	27.33	0.00	0.00	47.14

Province	Island	Site	Exposure	Mean Density (per ha)	Angelfishes	Butterflyfishes	Damselfishes	Fairy basslets	Hawkfishes	Leatherjackets	Parrotfishes	Puffers	Surgeonfishes	Sweetlips	Triggerfishes	Wrasses
	Malaita (con't)	55	exp	mean	**160.00**	**346.67**	**1466.67**	**13.33**	**26.67**	**0.00**	**0.00**	**26.67**	**1002.67**	**533.33**	**0.00**	**693.33**
				std	36.51	212.92	1464.39	29.81	36.51	0.00	0.00	59.63	388.66	651.63	0.00	314.82
		56	exp	mean	**186.67**	**120.00**	**3466.67**	**40.00**	**13.33**	**0.00**	**0.00**	**0.00**	**280.00**	**0.00**	**13.33**	**706.67**
				std	178.89	55.78	3060.50	59.63	29.81	0.00	0.00	0.00	259.91	0.00	29.81	396.09
		57	shelt	mean	**93.33**	**173.33**	**10866.67**	**34.67**	**0.00**	**0.00**	**0.00**	**13.33**	**226.67**	**0.00**	**0.00**	**506.67**
				std	76.01	138.24	15181.49	33.47	0.00	0.00	0.00	29.81	192.06	0.00	0.00	138.24
		58	exp	mean	**53.33**	**440.00**	**15000.00**	**88.00**	**120.00**	**53.33**	**0.00**	**13.33**	**781.33**	**112.00**	**8.00**	**813.33**
				std	55.78	192.06	5651.94	73.39	128.24	73.03	0.00	29.81	389.26	172.46	17.89	196.64
		59	shelt	mean	**280.00**	**213.33**	**5666.67**	**40.00**	**0.00**	**0.00**	**0.00**	**0.00**	**480.00**	**29.33**	**0.00**	**920.00**
				std	119.26	55.78	3009.25	59.63	0.00	0.00	0.00	0.00	246.76	40.44	0.00	440.71
		60	exp	mean	**160.00**	**226.67**	**1266.67**	**40.00**	**13.33**	**0.00**	**0.00**	**0.00**	**360.00**	**0.00**	**53.33**	**1813.33**
				std	101.11	197.77	1011.05	59.63	29.81	0.00	0.00	0.00	213.96	0.00	86.92	624.32
		61	shelt	mean	**146.67**	**106.67**	**1000.00**	**0.00**	**0.00**	**0.00**	**0.00**	**13.33**	**13.33**	**26.67**	**0.00**	**226.67**
				std	196.64	111.55	1105.54	0.00	0.00	0.00	0.00	29.81	29.81	36.51	0.00	192.06
Western	**New Georgia**	**29**	exp	mean	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**280.00**	**56.00**	**104.00**	**0.00**
				std	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	521.54	125.22	115.24	0.00
		30	exp	mean	**0.00**	**0.00**	**0.00**	**8.00**	**0.00**	**0.00**	**0.00**	**0.00**	**128.00**	**48.00**	**8.00**	**0.00**
				std	0.00	0.00	0.00	17.89	0.00	0.00	0.00	0.00	86.72	65.73	17.89	0.00
		31	shelt	mean	**133.33**	**493.33**	**9333.33**	**48.00**	**0.00**	**0.00**	**0.00**	**13.33**	**560.00**	**0.00**	**32.00**	**586.67**
				std	47.14	318.33	408.25	52.15	0.00	0.00	0.00	29.81	243.13	0.00	33.47	433.08
		32	exp	mean	**66.67**	**640.00**	**46800.00**	**546.67**	**53.33**	**0.00**	**0.00**	**0.00**	**834.67**	**13.33**	**490.67**	**813.33**
				std	81.65	173.85	42700.25	963.10	55.78	0.00	0.00	0.00	151.32	29.81	965.60	119.26
		33	exp	mean	**40.00**	**426.67**	**38733.33**	**6480.00**	**13.33**	**0.00**	**0.00**	**0.00**	**280.00**	**8.00**	**56.00**	**653.33**
				std	59.63	180.12	35284.87	6658.86	29.81	0.00	0.00	0.00	136.63	17.89	125.22	363.32
		34	exp	mean	**26.67**	**746.67**	**13746.67**	**554.67**	**13.33**	**0.00**	**13.33**	**13.33**	**1173.33**	**0.00**	**8.00**	**466.67**
				std	36.51	369.38	5188.75	1218.03	29.81	0.00	29.81	29.81	1267.96	0.00	17.89	298.14
		35	shelt	mean	**93.33**	**306.67**	**23866.67**	**13733.33**	**0.00**	**0.00**	**0.00**	**13.33**	**256.00**	**0.00**	**0.00**	**546.67**
				std	101.11	252.10	10704.62	10277.92	0.00	0.00	0.00	29.81	175.47	0.00	0.00	119.26
		36	exp	mean	**80.00**	**506.67**	**13133.33**	**6016.00**	**53.33**	**0.00**	**0.00**	**0.00**	**506.67**	**0.00**	**48.00**	**666.67**
				std	109.54	401.66	4488.26	5517.49	55.78	0.00	0.00	0.00	148.77	0.00	52.15	235.70
		37	shelt	mean	**453.33**	**533.33**	**17000.00**	**48.00**	**13.33**	**0.00**	**0.00**	**0.00**	**466.67**	**0.00**	**130.67**	**1720.00**
				std	381.23	124.72	5472.15	55.46	29.81	0.00	0.00	0.00	429.47	0.00	142.49	1618.23

Province	Island	Site	Exposure	Mean Density (per ha)	Angelfishes	Butterflyfishes	Damselfishes	Fairy basslets	Hawkfishes	Leatherjackets	Parrotfishes	Puffers	Surgeonfishes	Sweetlips	Triggerfishes	Wrasses
Western	Shortlands	25	exp	mean	**93.33**	**466.67**	**13800.00**	**373.33**	**66.67**	**0.00**	**0.00**	**0.00**	**3365.33**	**45.33**	**186.67**	**3960.00**
				std	138.24	278.89	12323.42	453.63	81.65	0.00	0.00	0.00	1697.91	80.88	347.69	7073.52
		26	shelt	mean	**280.00**	**680.00**	**8640.00**	**29.33**	**0.00**	**0.00**	**0.00**	**0.00**	**320.00**	**0.00**	**0.00**	**746.67**
				std	207.63	387.01	5703.14	28.91	0.00	0.00	0.00	0.00	128.24	0.00	0.00	450.68
		27	exp	mean	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**7328.00**	**0.00**	**0.00**	**0.00**
				std	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4712.74	0.00	0.00	0.00
		28	shelt	mean	**0.00**	**0.00**	**0.00**	**16.00**	**0.00**	**0.00**	**0.00**	**0.00**	**8.00**	**0.00**	**8.00**	**0.00**
				std	0.00	0.00	0.00	21.91	0.00	0.00	0.00	0.00	17.89	0.00	17.89	0.00