

# The reef-associated fishes of West Sulu Sea, Palawan, Philippines: a checklist and trophic structure

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**Abstract.** The western side of the Sulu Sea in Palawan, Philippines, is covered with wide patches of coral reefs, serving as rich harvesting grounds for fishers from Palawan and nearby provinces. However, there is limited information on the number of reef-associated fish species in the West Sulu Sea. In this paper, we used data from previous fish visual census surveys (FVCs) and consolidated it with the work of Schroeder (1980) to come up with a species checklist for the area. A total of 598 reef-associated fishes were documented; a total of 215 of these are new records for the area. Damsel-fishes (Pomacentridae) and wrasses (Labridae) had the highest number of representative species at 87 and 76, respectively. The number of recorded reef fishes present in West Sulu is expected to increase if other areas are surveyed. Information on the number of reef fish species is important for baseline information in creation of marine protected areas in the province and in crafting appropriate conservation measures for these species.

**Key Words:** conservation, coral reefs, FVC survey, marine protected areas, representative species.

**Introduction.** The Philippines, as part of the Coral Triangle, has one of the most diverse coral reef species in the world (Allen 2007). Although coral reefs occupy only 0.1% of the ocean floor (Gattuso et al 2014), they serve as habitat for an astounding number of marine species. For example, in Verde Island Passage, Philippines (between Mindoro and Batangas), more than 2,000 reef fish species were documented by Carpenter & Springer (2005), dubbing the area as the “Centre for marine shorefish biodiversity”.

Coral reefs, which are one of the most productive habitats in the world (Moberg & Folke 1999), provide shelter and protection for ecologically and economically important fish and other marine life forms. Coral reef fisheries are estimated to contribute 20–25% of the Philippines’ total fish production volume and value (Alcala & Russ 2002). The reefs and its fishes are also important components of eco-tourism; reefs with high fish diversity can attract local and foreign tourists (Balisco 2014). Thus, the role of reefs in supporting sustenance or artisanal fishers and economic development is vital for the livelihood of coastal communities.

The identification of certain reef fishes plays a significant role in determining reef health. For example, many species of butterflyfishes (family Chaetodontidae) are known to be corallivores (i.e. feed on coral polyps); they feed on worms and other organisms found in the reef system. Some damselfishes (family Pomacentridae) are highly territorial and tend to stay in a limited area within the reefs (Allen et al 2003). Other groups, such as the target fish (e.g. groupers, snappers, parrotfishes) may indicate the level of reef exploitation. Thus, a reduction in these indicator species can identify a degrading reef, a reduction of diversity and biomass, and predict an ecosystem shift (i.e. from coral dominated to algal dominated reef) (Hughes 1994; Bellwood et al 2004).

The island of Palawan, Philippines, a World Biosphere Reserve, harbors high coral species diversity for the country (Chou 2000) and South China Sea (Huang et al 2014), and possibly one of the highest in the world. Off its eastern coast, in the West Sulu Sea (WSS), coral reefs occupy about 30,000 km<sup>2</sup> and serve as one of the country’s major fishing grounds (PSA 2017). Despite the rich biodiversity in the area, few studies are

published on species diversity and abundance. Only the works of Schroeder (1980) on Philippine shore fishes of the Western Sulu Sea, which identified 517 shore fish species, was found, but this work did not specifically study fish that are associated in reef areas. Gonzales (2013) documented 431 coastal fishes in Palawan, but most are pelagic and migratory. There is no published paper or even an initial list of reef fishes that occur in the seas around Palawan, let alone in the WSS specifically. A similar study of Allen & Erdmann (2009) recorded at least 813 reef fishes in El Nido, Palawan, but their sampling stations were mostly on the western side of the island, facing the West Philippine Sea. With the limited information on reef fish species found in the eastern side of the province, this paper aims to fill such gaps, which may serve as baseline information for other studies as well as marine management interventions (Agardy 2000).

## Material and Method

**Study sites.** The Sulu Sea is located in the mid-west of the Philippines. The West Sulu Sea (WSS) extends from Tanjong Sampangio (7°20.807'N; 117°12.376'E), at the north point of Borneo, to the northwest side of Mindoro, Philippines, Cape Calavite (13°13.552'N; 120°21.331'E) (IHO 1953).

In this study, we used previously collected data from several fish visual census surveys (FVCs) (English et al 1997) conducted between 2014 and 2017 in selected reefs in the WSS. This includes surveys conducted in eight locations: Aborlan, Bataraza, Brooke's Point, Narra, Puerto Princesa City, Roxas, Sofronio Española and Taytay (Figure 1; Appendix 1).

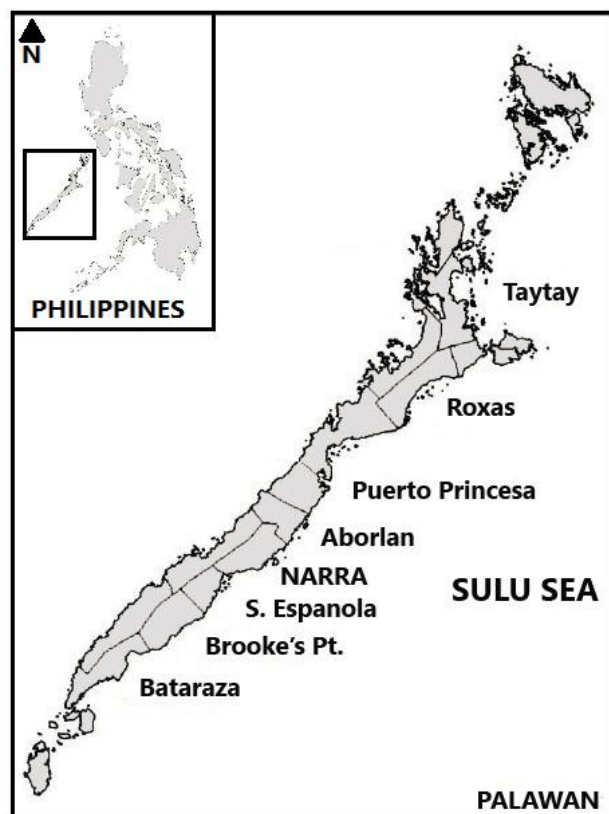


Figure 1. The sampling locations of reefs surveyed in west Sulu Sea, Palawan, Philippines.

**Fish listing procedure.** The occurrence of fish species by station were collated from several FVCs. No specimens were collected during surveys. Species identifications were validated using Fish Base (Froese & Pauly 2000, [www.fishbase.org](http://www.fishbase.org)). All surveys were conducted using scuba gear from 8:00 AM to 3:30 PM in the reefs with 3-22 m depth. The works of Schroeder (1980) in WSS were also consolidated into this checklist. In this context, we define reef fishes as species that are primarily associated with coral reefs,

which depend on the reef or nearby vicinity for shelter and food during any phase of its post-settlement life (Robertson 1998). Fish that regularly visit reefs for food, cleaning services, and reproduction are also included.

Fish were also categorized into different groups. Those classified as “target” have high commercial value and are the main target by fishers. “Indicator” fish feed on coral polyps and are highly territorial. “Major” groups have less commercial importance, and do not fall in the category of target or indicator groups (English et al 1997). These fish were classified as to their trophic structure based from Fish Base (www.fishbase.org): herbivore (feed on algal mat and seaweeds), piscivore (a carnivore feeding exclusively on fish), benthic invertivore (a carnivore consuming slow moving small crustaceans, mollusks, worms in the bottom), detritivore (feed on detrital/organic matter), omnivore (feed on animal and algae), planktivore (primarily feed on zooplankton) and corallivore (feed on coral polyps).

**Results.** There were 598 fish species under 226 genera, belonging to 71 families recorded during the different surveys (Table 1). The families with the highest number of representative species were Pomacentridae (dameselfishes) (87), Labridae (wrasses) (76), Chaetodontidae (butterflyfishes) (38), Serranidae (groupers) (38), Scaridae (parrotfishes) (26), Acanthuridae (surgeonfishes) (25), Carangidae (jacks) (23), Lutjanidae (snappers) (23), Apogonidae (cardinalfishes) (21), and Pomacanthidae (angelfishes) (21). The genera *Chaetodon* (26), *Pomacentrus* (21), *Scarus* (16), *Chromis* (16), *Acanthurus* (15), *Halichoeres* (14), *Lutjanus* (18), and *Siganus* (13) had the highest species representatives identified.

Among the sites, Puerto Princesa City had the highest number of reef fish species recorded (235), followed by Aborlan (234), Taytay (193), Sofronio Española (178), Roxas (171), Narra (147), and Bataraza (65), while only 45 species were recorded in Brooke’s Point.

Out of the 598 reef fishes documented, 303 can be classified as “major” species, 260 as “target” species and 35 as “indicator” species. In terms of “major” species, 123 were found in Puerto Princesa City, while only 29 species were noted in Brooke’s Point. In terms of “target” species, Puerto Princesa has the highest number of species documented (91), while Brooke’s Point has the lowest with 13 species noted. In terms of indicator species, so far Aborlan has the most with 22 species and Brooke’s Point has the lowest with just 4 species recorded (Table 1). The full list of fish species encountered in west Sulu Sea is listed in Appendix 2.

Table 1

Summary of the species composition and category of reef fishes encountered in West Sulu Sea, Palawan, Philippines

<i>Location</i>	<i>No. of families</i>	<i>No. of species</i>	<i>Target species</i>	<i>Indicator species</i>	<i>Major species</i>
Aborlan <sup>1</sup>	25	234	90	22	122
Bataraza <sup>2</sup>	15	65	26	5	34
Brooke’s Pt. <sup>3</sup>	13	46	13	4	29
NARRA <sup>4</sup>	25	147	62	8	77
Puerto Princesa <sup>5</sup>	33	235	91	21	123
Roxas <sup>6</sup>	31	171	69	15	87
Sofronio Española <sup>7</sup>	25	178	72	13	93
Taytay (East side) <sup>8</sup>	27	193	72	10	111
Western Sulu Sea <sup>9</sup>	73	390	180	18	192
Total	74	607	264	35	308

<sup>1</sup>Balisco et al (2016); <sup>2</sup>Balisco et al (2017d); <sup>3</sup>Balisco et al (2017d); <sup>4</sup>Dolorosa (2016); <sup>5</sup>Balisco et al (2017a); <sup>6</sup>Balisco et al (2017b); <sup>7</sup>Balisco et al (2017c) & Balisco et al (2017d); <sup>8</sup>Balisco (2014); <sup>9</sup>Schroeder (1980).

**Trophic structure.** Among the seven fish trophic structures, the benthic invertivores (37.0%) were the most dominant. The other trophic structures included herbivores

(22.1%), piscivores (21.1%), planktivores (11.7%), corallivores (5.5%), omnivores (2.3%) and detritivores (0.3%) (Figure 2).

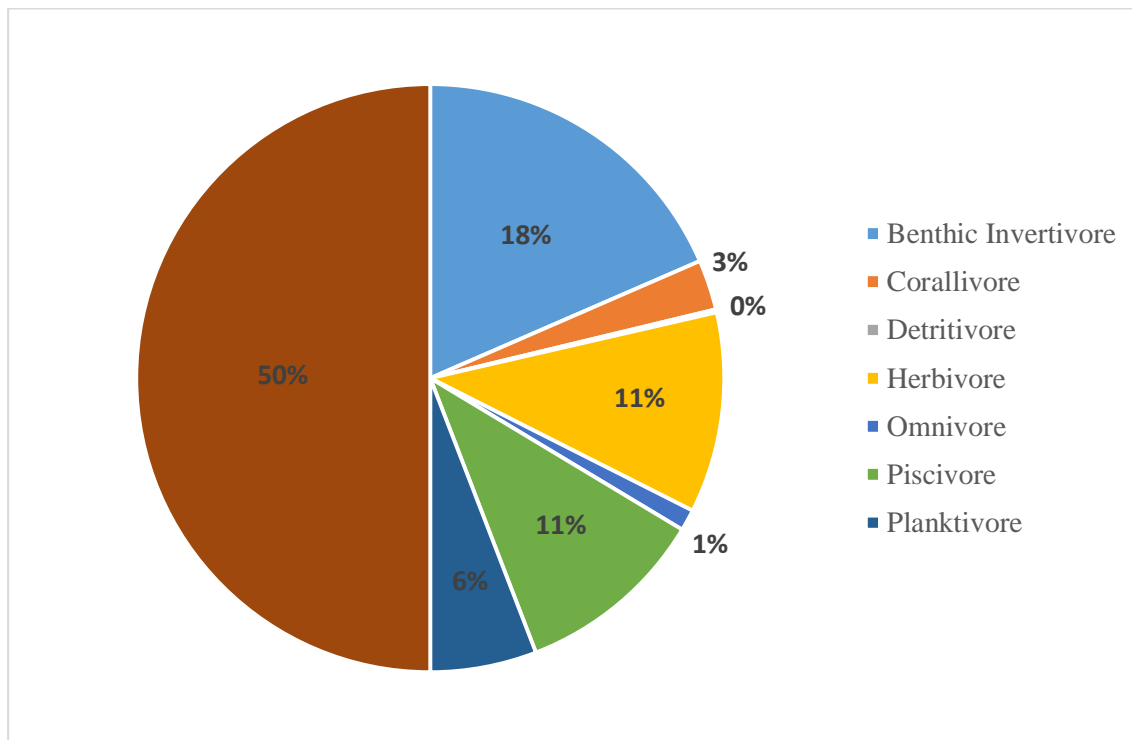


Figure 2. Overall relative abundance of reef fish trophic structure encountered in west Sulu Sea, Palawan, Philippines.

Among the benthic invertivores, wrasses (Labridae), cardinalfishes (Apogonidae) and nemipterids (Nemipteridae) are the diverse groups from the study sites, comprising 41.2% of the total benthic invertivores. Damselfishes (Pomacentridae), parrotfishes (Scaridae) and surgeonfishes (Acanthuridae) comprised 72% of all herbivores from sampling sites. For piscivorous species, majority (59.5%) are demersal fishes including members of groupers (Serranidae) and snappers (Lutjanidae), while some species are epipelagic such as jacks (Carangidae). Majority of the planktivores are damselfishes (Pomacentridae) (48.6%) with some representatives from other reef fish families.

Aside from the first survey in west Sulu Sea (WSS), benthic invertivores were found in the highest number in Puerto Princesa (91), Aborlan (79) and Taytay (74). The number of corallivores was highest in Puerto Princesa (22), Aborlan (21) and Roxas (15). Aborlan (63), Puerto Princesa (54) and Taytay (50) have many herbivorous species than other sites. Piscivorous reef fishes are high in Puerto Princesa (33), Aborlan (29) and Sofronio Española (28). On the other hand, Taytay and Aborlan have 34 planktivorous species each, followed by Puerto Princesa (29) (Figure 3).

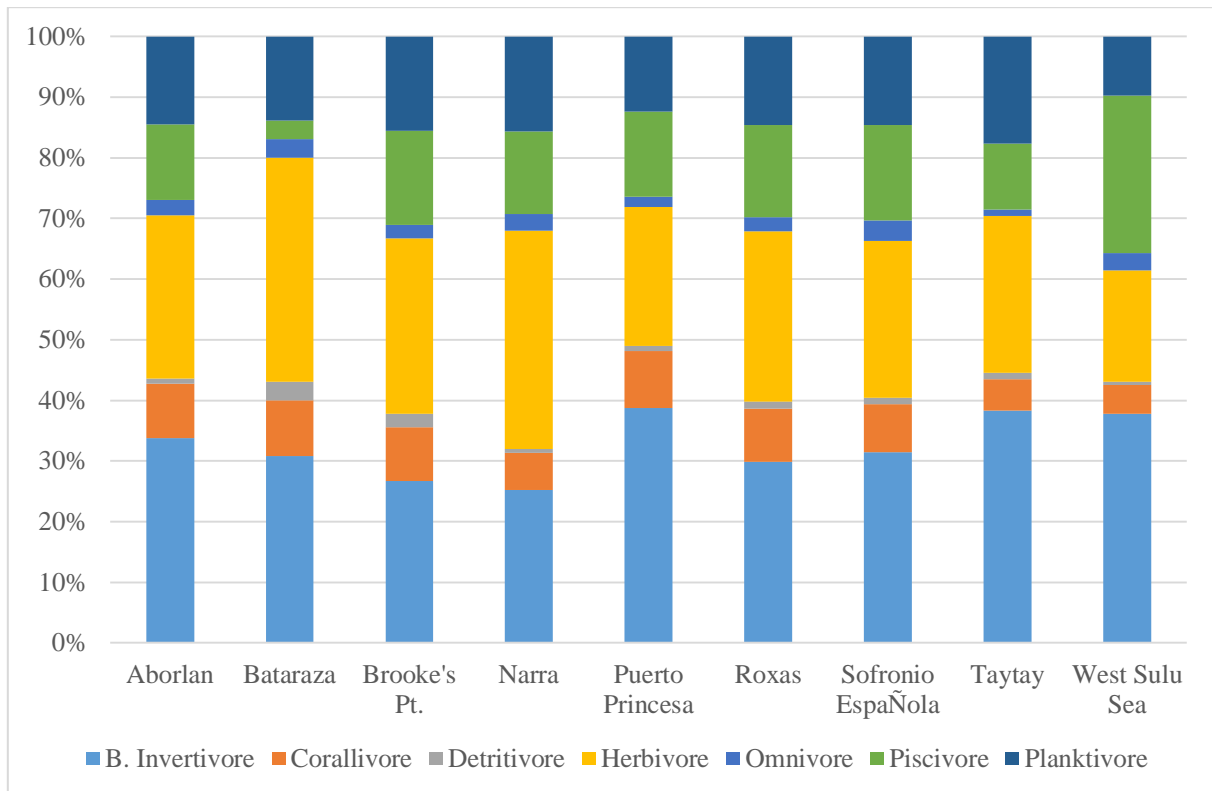


Figure 3. Relative abundance of reef fish trophic structure per municipality in west Sulu Sea, Palawan, Philippines.

## Discussion

**Checklist.** This study recorded 598 species, higher than several similar studies conducted in other countries. For instance, Floeter et al (2003) recorded 329 reef fishes from Brazil, Luiz et al (2008) recorded 196 species from Laje de Santos Marine State Park, Southwestern Atlantic, and 138 species were recorded in Arunachal Pradesh, India (Bagra et al 2009). Conversely, Hablutzet et al (2013) estimated 735 species (21 new records) in the Bolivian Amazon. The number of species listed in this checklist is low compared to Indonesian coral reef studies where 2057 species were recorded (Allen & Adrim 2003).

A study conducted by Allen & Erdmann (2009) in El Nido, Palawan recorded a higher number of reef fish at 813 compared to this checklist. Their survey sites have up to 60 m depth, while this checklist only recorded those fishes encountered in water less than 20 m deep. Cryptic species were seldom included in studies for this checklist because of water visibility limitations at some sites. During the creation of FVCs for the different sites in this study, only fish with proper identification were recorded, leaving unidentified species excluded in this checklist. For example, the recorded number of gobies (Gobiidae) in El Nido was 131 species, but only one (i.e. *Valenciennesa strigata*) was recorded in this checklist. Although gobies are one of the dominant reef fish families, Medvedev et al (2013) suggested that some gobies have taxonomic problems, thus this group may be underrepresented on this checklist. The number of damselfishes (Pomacentridae) in this checklist is 83, compared to 96 species in El Nido.

The Schroeder (1980) study included photo-documentation of fish species in WSS. He recorded a total of 517 species, which included 45 damselfishes (Pomacentridae), 37 wrasses (Labridae), 32 grouper (Serranidae), and 23 butterflyfish (Chaetodontidae) species. However, most of the species were not identified up to species level, and some have changed taxonomic classification since the study was conducted.

The fishes identified in coral reefs around Pag-asa Island, Kalayaan, Palawan, Philippines totaled 251 species in 36 families (Pagliawan et al 2008). In Tubbataha Reefs Natural Park (TRNP) in Cagayancillo, Palawan, there were 265 reef-associated fishes

identified (Martinez et al 2013). The TRNP, located at the center of Sulu Sea, is believed to be a major contributor of fish larvae in the reefs of WSS. This is evidenced in the high fish egg concentrations in selected sites for the MPA Network in the Sulu Sea, Philippines (Campos et al 2008). The nearby reefs of Cagayancillo had 195 fish species (Dolorosa et al 2015). The coastal fishes of Palawan were documented by Gonzales (2013), where he recorded 431 species, but most were pelagic and migratory species; few were reef-associated and some were not identified up to species level. He recorded species mostly from the catch of fishers, thus non-targeted reef species were excluded in his record.

Generally, more fish species were listed in Puerto Princesa City compared with other sites, possibly because of its accessibility to researchers. Only one reef was surveyed in Brooke's Point; likely the reasons for limited information were because the area has only a few reefs and are less accessible to researchers.

Table 2 shows the number of reef fishes of several studies in Palawan, and the corresponding number of species per dominant families. Damselfishes (Pomacentridae), wrasses (Labridae), butterflyfishes (Chaetodontidae), parrotfishes (Scaridae), and surgeonfishes (Acanthuridae) were the dominant fish families at most of the surveyed sites.

Table 2

Comparison on the number of species per fish family (top 10) with other studies conducted in Palawan

Family	Number of species				
	Western Sulu Sea, Palawan <sup>1</sup>	Pag-asa Is., Kalayaan, Palawan <sup>2</sup>	Palawan <sup>3</sup>	Cagayan-cillo <sup>4</sup>	Present study
Acanthuridae	15	20	15	13	26
Apogonidae	23	3	4	-	22
Carangidae	25	1	43	-	24
Chaetodontidae	23	20	3	22	38
Holocentridae	8	9	9	8	12
Labridae	37	55	17	36	76
Lutjanidae	21	3	28	7	23
Nemipteridae	18	2	20	2	13
Pomacanthidae	13	6	6	3	21
Pomacentridae	45	54	4	43	87
Scaridae	12	15	31	15	26
Serranidae	32	5	36	12	23
Total families	103	36	78	25	36
Total species	517	251	431	195	607

<sup>1</sup>Schroeder (1980); <sup>2</sup>Pagliawan et al (2008); <sup>3</sup>Gonzales (2013); <sup>4</sup>Dolorosa et al (2015).

The 215 new recorded species from the different FVCs in this study, along with from the 517 species identified by Schroeder (1980), resulted in 598 reef-associated species in this checklist for WSS. This number would be expected to increase if other species could be properly identified, and if other reefs could be assessed. Given this information, appropriate management measures must be undertaken to ensure that the biology and life history of these species be studied before they become overexploited in the WSS.

**Trophic structure.** The benthic invertivore predators in coral reefs have variety of feeding habits and have various prey items including crustaceans and mollusks that are found to be abundant on the bottom of the tropical coral reefs (Ferreira et al 2004). The moderate number of herbivorous species indicates that the area have relatively high abundance of algae which serves as food for these reef fishes since most of the reefs have depths that are enough for algal photosynthesis algae where they can grow optimally (Luiz et al 2008). Roving herbivores are abundant roaming around tropical reefs to find abundant brown algae as a source of their diet. Territorial herbivores (e.g.

surgeonfishes, damselfishes) also maintain an algal mat for their consumption in their territory and protect it from other roving herbivores (Ferreira et al 2004). Reef herbivores (e.g. fish and urchins) are important in enhancing the growth of coral reefs by reducing the abundance of algae that competes with survival and colonization of corals and coralline algae (Ogden & Lobel 1978).

There was a relative small portion of the planktivorous reef fish in the study sites since most of the reefs are near the mainland Palawan. There is greater abundance of planktivorous fishes when reefs are far from the coast or a big island or mainland (Floeter et al 2007). Most of the listed planktivores are medium size species (e.g. wrasses, soldierfishes) which are most abundant in shallower reefs near an island. These groups of fishes also proliferate in less turbid water since planktivores rely mostly on their vision and light intensity in feeding than other feeding groups (De Robertis et al 2003).

Piscivorous fishes are represented mostly by groupers, snappers and lizardfishes which are demersal species that are hunting or lying in the bottom to ambush their prey. This group is widely distributed in different taxa and location where they mostly occupy the top of the food pyramids in coral reefs (Juanes et al 2002). Cardinalfishes (Apogonidae) and damselfishes (Pomacentridae) dominated in the diet in most of piscivorous reef fishes (Beukers-Stewart & Jones 2004). Omnivores are euryphagic species that can adjust their feeding preference depending on the food availability. They can feed on algae or prey on small benthic animals seasonally. Corallivores are an important component of a healthy coral reef, and studies showed that about 128 fish species worldwide are found to be corallivores (Cole et al 2008). The corallivores in this study are majority from family Chaetodontidae (butterflyfishes), with few representatives from wrasses (Labridae), filefishes (Monacanthidae), angelfishes (Pomacanthidae) and damselfishes (Pomacentridae).

**Conclusions.** The number of known reef fishes present in the WSS is considered high compared to other surveyed sites and is expected to increase if other reef areas and deeper reefs are surveyed, and cryptic species (e.g. gobies) be carefully assessed. Identifying reef fish communities including their trophic structure can be used in the formulation of policies for the management of these resources in Palawan.

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## Appendix 1

### Location of sampled reefs per location in west Sulu Sea, Palawan, Philippines

<i>Location</i>	<i>Station</i>	<i>Latitude</i>	<i>Longitude</i>
Aborlan	Seven Lines reef	9°20.354' N	118°41.178' E
Bataraza	Gusong Maliit reef	8°36.935' N	117°33.791' E
	Sebentehan reef	8°37.234' N	117°34.733' E
Brooke's Point	Maasin reef	8°51.638' N	117°57.726' E
NARRA	Rasa Is.	9°14.582' N	118°26.887' E
	Binduyan reef	10°01.329' N	119°06.360' E
Puerto Princesa	Lacson reef	9°58.882' N	118°59.235' E
	Nagpawikan reef	10°01.269' N	119°06.987' E
	Panglima reef	9°55.863' N	119°04.012' E
	Pungtod reef	9°58.064' N	118°55.733' E
	Sabang reef	10°00.354' N	119°03.881' E
	San Rafael reef	9°58.638' N	118°58.065' E
	Tangdol reef	9°43.250' N	118°45.234' E
Roxas	Green Is.	10°15.516' N	119°26.519' E
	Johnson Is.	10°14.334' N	119°22.398' E
	Kaliksi Is.	10°19.092' N	119°28.848' E
	Modessa Is.	10°17.289' N	119°25.946' E
	Bessie Is.	9°04.858' N	118°08.585' E
Sofronio Española	Gardiner Is.	9°02.009' N	118°06.260' E
	Kalaparan	8°59.824' N	118°09.691' E
	King's Paradise	9°06.292' N	118°09.318' E
	Malanap	8°58.853' N	118°04.505' E
	Punang	8°59.694' N	118°05.148' E
Taytay	Apulit Is.	10°57.074' N	119°36.753' E
	Noa-noa	10°59.451' N	119°35.667' E
	Pabellon Is.	10°53.628' N	119°37.575' E

Fish species encountered during the several fish visual census surveys (FVCs) and those documented by Schroeder (1980)<sup>1</sup> in west Sulu Sea, Palawan, Philippines. Note: positive (+) sign indicates presence of such species in the locality

Family and species	Trophic group	Group	Aborlan	Bataraza	Brooke's Pt.	Narra	PPC	Roxas	Española	Taytay	WS Sea <sup>1</sup>
<b>Family Acanthuridae (Surgeonfishes)</b>											
<i>Acanthurus auranticavus</i> Randall, 1956	Herbivore	Target	+	+	+	+	+	+	+		
<i>Acanthurus blochii</i> Valenciennes, 1835	Herbivore	Target							+		
<i>Acanthurus grammoptilus</i> Richardson, 1843	Herbivore	Target	+								
<i>Acanthurus japonicus</i> (Schmidt, 1931)	Herbivore	Target	+								
<i>Acanthurus lineatus</i> (Linnaeus, 1758)	Herbivore	Target	+				+		+		+
<i>Acanthurus mata</i> (Cuvier, 1829)	Herbivore	Target							+		
<i>Acanthurus nigricans</i> (Linnaeus, 1758)	Herbivore	Target	+								
<i>Acanthurus nigricauda</i> Duncker & Mohr, 1929	Herbivore	Target									+
<i>Acanthurus nigrofuscus</i> (Forsskål, 1775)	Herbivore	Target	+				+	+	+		
<i>Acanthurus nigroris</i> Valenciennes, 1835	Herbivore	Target	+								
<i>Acanthurus olivaceus</i> Bloch & Schneider, 1801	Herbivore	Target	+								+
<i>Acanthurus pyroferus</i> Kitthlitz, 1834	Herbivore	Target	+			+	+		+		+
<i>Acanthurus thompsoni</i> (Fowler, 1923)	Planktivore	Target					+				
<i>Acanthurus triostegus</i> (Linnaeus, 1758)	Herbivore	Target	+								+
<i>Acanthurus xanthopterus</i> Valenciennes, 1835	Herbivore	Target									+
<i>Ctenochaetus binotatus</i> Randall, 1955	Detritivore	Target	+	+			+	+	+	+	+
<i>Ctenochaetus striatus</i> (Quoy & Gaimard, 1825)	Detritivore	Target	+	+	+	+	+	+	+	+	+
<i>Naso annulatus</i> (Quoy & Gaimard, 1825)	Herbivore	Target									+
<i>Naso brevirostris</i> (Cuvier, 1829)	Herbivore	Target					+				+
<i>Naso caeruleacauda</i> Randall, 1994	Herbivore	Target	+				+				+
<i>Naso lituratus</i> (Forster, 1801)	Herbivore	Target	+				+		+		+
<i>Naso vlamingii</i> (Valenciennes, 1835)	Herbivore	Target							+		
<i>Paracanthurus hepatus</i> (Linnaeus, 1766)	Planktivore	Major									+
<i>Zebrasoma scopas</i> (Cuvier, 1829)	Herbivore	Major	+		+	+	+	+	+		+
<i>Zebrasoma velifer</i> (Bloch, 1795)	Herbivore	Major		+							+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<b>Family Apogonidae (Cardinal fishes)</b>											
<i>Apogon coccineus</i> Rüppell, 1838	Benthic Invertivore	Major									+
<i>Cheilodipterus arabicus</i> (Gmelin, 1789)	Benthic Invertivore	Major									+
<i>Cheilodipterus intermedius</i> Gon, 1993	Piscivore	Major					+				
<i>Cheilodipterus isostigmus</i> (Schulz, 1940)	Piscivore	Major	+	+	+						
<i>Cheilodipterus macrodon</i> (Lacepède, 1802)	Piscivore	Major					+				+
<i>Cheilodipterus quinquelineatus</i> Cuvier, 1828	Benthic Invertivore	Major				+	+	+			+
<i>Cheilodipterus singaporensis</i> Bleeker, 1860	Benthic Invertivore	Major									+
<i>Nectamia bandanensis</i> (Bleeker, 1854)	Benthic Invertivore	Major									+
<i>Ostorhinchus aureus</i> (Lacepède, 1802)	Benthic Invertivore	Major									+
<i>Ostorhinchus compressus</i> (Smith & Radcliffe, 1911)	Benthic Invertivore	Major					+	+			
<i>Ostorhinchus cyanosoma</i> (Bleeker, 1853)	Benthic Invertivore	Major									+
<i>Ostorhinchus griffini</i> (Seale, 1910)	Benthic Invertivore	Major						+			
<i>Ostorhinchus novemfasciatus</i> (Cuvier, 1828)	Benthic Invertivore	Major					+				
<i>Pristiapogon fraenatus</i> (Valenciennes, 1832)	Benthic Invertivore	Major									+
<i>Pristiapogon kallopterus</i> (Bleeker, 1856)	Benthic Invertivore	Major									+
<i>Pristicon trimaculatus</i> (Cuvier, 1828)	Benthic Invertivore	Major									+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<i>Pristicon rhodopterus</i> (Bleeker, 1852)	Benthic Invertivore	Major					+				
<i>Pristicon trimaculatus</i> (Cuvier, 1828)	Benthic Invertivore	Major					+			+	
<i>Sphaeramia nematoptera</i> (Bleeker, 1856)	Benthic Invertivore	Major					+			+	+
<i>Sphaeramia orbicularis</i> (Cuvier, 1828)	Benthic Invertivore	Major					+			+	+
<i>Taeniamia zosterophora</i> (Bleeker, 1856)	Benthic Invertivore	Major					+			+	
<b>Family Aulostomidae (Trumpetfishes)</b>											
<i>Aulostomus chinensis</i> (Linnaeus, 1766)	Benthic Invertivore	Major					+	+	+	+	
<b>Family Balistidae (Triggerfishes)</b>											
<i>Abalistes stellaris</i> (Bloch & Schneider, 1801)	Benthic Invertivore	Target									+
<i>Balistapus undulatus</i> (Park, 1797)	Omnivore	Target	+			+	+	+	+	+	+
<i>Balistoides conspicillum</i> (Bloch & Schneider, 1801)	Benthic Invertivore	Major	+						+		+
<i>Balistoides viridescens</i> (Bloch & Schneider, 1801)	Benthic Invertivore	Major					+				+
<i>Melichthys vidua</i> (Richardson, 1845)	Omnivore	Major	+					+	+		
<i>Odonus niger</i> (Rüppell, 1836)	Benthic Invertivore	Major	+				+		+		+
<i>Pseudobalistes flavimarginatus</i> (Rüppell, 1829)	Benthic Invertivore	Target	+				+				+
<i>Rhinecanthus aculeatus</i> (Linnaeus, 1758)	Benthic Invertivore	Major									+
<i>Rhinecanthus verrucosus</i> (Linnaeus, 1758)	Benthic Invertivore	Major					+		+		+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<i>Sufflamen bursa</i> (Bloch & Schneider, 1801)	Benthic Invertivore	Major	+				+		+		
<i>Sufflamen chrysopterum</i> (Bloch & Schneider, 1801)	Benthic Invertivore	Major					+		+		
<b>Family Belontiidae (Needlefishes)</b>											
<i>Tylosurus crocodilus</i> (Péron & Lesueur, 1821)	<i>Piscivore</i>	Target									+
<b>Family Blenniidae (Blennies)</b>											
<i>Aspidontus taeniatus</i> Quoy & Gaimard, 1834	Benthic Invertivore	Major					+	+	+		
<i>Blenniella periophthalmus</i> (Valenciennes, 1836)	Benthic Invertivore	Major							+		
<i>Cirripectes variolosus</i> (Valenciennes, 1836)	Herbivore	Major									+
<i>Ecsenius bicolor</i> (Day, 1888)	Herbivore	Major									+
<i>Ecsenius midas</i> Starck, 1969	Herbivore	Major									+
<i>Ecsenius namiyei</i> (Jordan & Evermann, 1902)	Herbivore	Major									+
<i>Meiacanthus grammistes</i> (Valenciennes, 1836)	Benthic Invertivore	Major	+				+	+	+		
<i>Meiacanthus lineatus</i> (De Vis, 1884)	Benthic Invertivore	Major	+								
<i>Plagiotremus rhinorhynchus</i> (Bleeker, 1852)	<i>Piscivore</i>	Major									+
<i>Salarias fasciatus</i> (Bloch, 1786)	Herbivore	Major	+								
<b>Family Bothidae (Left-eyed flounders)</b>											
<i>Bothus pantherinus</i> (Rüppell, 1830)	Benthic Invertivore	Major									+
<b>Family Bythitidae (Viviparous brotulas)</b>											
<i>Dinematichthys ilucoeteoides</i> Bleeker, 1855	Benthic Invertivore	Major									+
<b>Family Caesionidae (Fusiliers)</b>											
<i>Caesio caerulea</i> Lacepède, 1801	Planktivore	Target				+	+			+	+
<i>Caesio cuning</i> (Bloch, 1791)	Planktivore	Target	+	+		+	+	+	+	+	+

Family and species	Trophic group	Group	Aborlan	Bataraza	Brooke's Pt.	Narra	PPC	Roxas	Española	Taytay	WS Sea <sup>1</sup>
<i>Caesio teres</i> Seale, 1906	Planktivore	Target	+							+	
<i>Pterocaesio chrysozona</i> (Cuvier, 1830)	Planktivore	Target	+								+
<i>Pterocaesio digramma</i> (Bleeker, 1864)	Planktivore	Target	+				+	+			
<i>Pterocaesio marri</i> Schultz, 1953	Planktivore	Target							+		
<i>Pterocaesio pisang</i> (Bleeker, 1853)	Planktivore	Target	+				+	+	+	+	+
<i>Pterocaesio tile</i> (Cuvier, 1830)	Planktivore	Target	+				+			+	
<i>Pterocaesio trilineata</i> Carpenter, 1987	Planktivore	Target					+	+	+	+	
<b>Family Callionymidae (Dragonets)</b>											
<i>Synchiropus picturatus</i> (Peters, 1877)	Benthic Invertivore	Major									+
<i>Synchiropus splendidus</i> (Herre, 1927)	Benthic Invertivore	Major									+
<b>Family Carangidae (Jacks and Trevallies)</b>											
<i>Alectis ciliaris</i> (Bloch, 1787)	Piscivore	Target									+
<i>Alectis indica</i> (Rüppell, 1830)	Piscivore	Target									+
<i>Alepes djedaba</i> (Forsskål, 1775)	Piscivore	Target								+	
<i>Atule mate</i> (Cuvier, 1833)	Planktivore	Target		+	+				+		+
<i>Carangoides bajad</i> (Forsskål, 1775)	Piscivore	Target					+	+		+	
<i>Carangoides ferdau</i> (Forsskål, 1775)	Piscivore	Target						+			+
<i>Carangoides fulvoguttatus</i> (Forsskål, 1775)	Piscivore	Target									+
<i>Carangoides oblongus</i> (Cuvier, 1833)	Piscivore	Target									+
<i>Carangoides plagiotaenia</i> Bleeker, 1857	Piscivore	Target									+
<i>Carangoides praeustus</i> (Anonymous [Bennett], 1830)	Piscivore	Target									+
<i>Caranx ignobilis</i> (Forsskål, 1775)	Piscivore	Target					+	+			+
<i>Caranx melampygus</i> Cuvier, 1833	Piscivore	Target					+	+		+	+
<i>Caranx tille</i> Cuvier, 1833	Piscivore	Target									+
<i>Elagatis bipinnulata</i> (Quoy & Gaimard, 1825)	Piscivore	Target									+
<i>Gnathanodon speciosus</i> (Forsskål, 1775)	Piscivore	Target									+
<i>Megalaspis cordyla</i> (Linnaeus, 1758)	Piscivore	Target									+
<i>Scomberoides lysan</i> (Forsskål, 1775)	Piscivore	Target									+

Family and species	Trophic group	Group	Aborlan	Bataraza	Brooke's Pt.	Narra	PPC	Roxas	Española	Taytay	WS Sea <sup>1</sup>
<i>Scomberoides tol</i> (Cuvier, 1832)	Piscivore	Target									+
<i>Selar boops</i> (Cuvier, 1833)	Piscivore	Target									+
<i>Selar crumenophthalmus</i> (Bloch, 1793)	Piscivore	Target									+
<i>Trachinotus baillonii</i> (Lacepède, 1801)	Benthic Invertivore	Target									+
<i>Ulua mentalis</i> (Cuvier, 1833)	Piscivore	Target									+
<i>Uraspis uraspis</i> (Günther, 1860)	Piscivore	Target									+
<b>Family Carcharhinidae (Requiem sharks)</b>											
<i>Carcharhinus melanopterus</i> (Quoy & Gaimard, 1824)	Piscivore	Target									+
<b>Family Centricidae (Shrimpfishes)</b>											
<i>Aeoliscus strigatus</i> (Günther, 1861)	Planktivore	Major				+	+		+		+
<b>Family Chaetodontidae (Butterflyfishes)</b>											
<i>Chaetodon adiergastos</i> Seale, 1910	Benthic Invertivore	Major						+			+
<i>Chaetodon auriga</i> Forsskål, 1775	Benthic Invertivore	Major	+				+	+	+		+
<i>Chaetodon baronessa</i> Cuvier, 1829	Corallivore	Indicator	+		+	+	+	+	+	+	+
<i>Chaetodon bennetti</i> Cuvier, 1831	Corallivore	Indicator					+	+			
<i>Chaetodon citrinellus</i> Cuvier, 1831	Corallivore	Indicator	+				+		+		
<i>Chaetodon collare</i> Bloch, 1787	Corallivore	Indicator								+	
<i>Chaetodon decussatus</i> Cuvier, 1829	Corallivore	Indicator	+	+	+	+			+		
<i>Chaetodon ephippium</i> Cuvier, 1831	Corallivore	Indicator	+				+	+			+
<i>Chaetodon kleinii</i> Bloch, 1790	Corallivore	Indicator	+				+	+	+		+
<i>Chaetodon lineolatus</i> Cuvier, 1831	Corallivore	Indicator					+	+	+		
<i>Chaetodon lunula</i> (Lacepède, 1802)	Benthic Invertivore	Major					+		+		+
<i>Chaetodon lunulatus</i> Quoy & Gaimard, 1825	Corallivore	Indicator	+	+	+	+	+	+	+	+	
<i>Chaetodon melannotus</i> Bloch & Schneider, 1801	Corallivore	Indicator	+				+				+
<i>Chaetodon octofasciatus</i> Bloch, 1787	Corallivore	Indicator		+		+	+	+	+	+	+
<i>Chaetodon ornatissimus</i> Cuvier, 1831	Corallivore	Indicator	+				+				



<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<i>Chaetodon oxycephalus</i> Bleeker, 1853	Corallivore	Indicator					+				+
<i>Chaetodon punctatofasciatus</i> Cuvier, 1831	Corallivore	Indicator					+				+
<i>Chaetodon rafflesii</i> Anonymous [Bennett], 1830	Corallivore	Indicator						+			+
<i>Chaetodon selene</i> Bleeker, 1853	Corallivore	Indicator	+								
<i>Chaetodon semeion</i> Bleeker, 1855	Omnivore	Major									+
<i>Chaetodon speculum</i> Cuvier, 1831	Corallivore	Indicator	+				+				+
<i>Chaetodon trifascialis</i> Quoy & Gaimard, 1825	Corallivore	Indicator	+				+		+		
<i>Chaetodon trifasciatus</i> Park, 1797	Corallivore	Indicator	+								+
<i>Chaetodon ulietensis</i> Cuvier, 1831	Corallivore	Indicator	+			+		+			+
<i>Chaetodon unimaculatus</i> Bloch, 1787	Corallivore	Indicator					+				+
<i>Chaetodon vagabundus</i> Linnaeus, 1758	Corallivore	Indicator	+				+	+	+	+	+
<i>Chelmon rostratus</i> (Linnaeus, 1758)	Benthic Invertivore	Major				+	+	+		+	+
<i>Coradion altivelis</i> McCulloch, 1916	Herbivore	Major						+	+		
<i>Coradion chrysozonus</i> (Cuvier, 1831)	Herbivore	Major	+				+				
<i>Forcipiger flavissimus</i> Jordan & McGregor, 1898	Corallivore	Indicator	+								+
<i>Forcipiger longirostris</i> (Broussonet, 1782)	Corallivore	Indicator	+								
<i>Heniochus acuminatus</i> (Linnaeus, 1758)	Planktivore	Major	+	+		+	+	+			+
<i>Heniochus chrysostomus</i> Cuvier, 1831	Corallivore	Indicator	+	+		+	+	+	+		+
<i>Heniochus monoceros</i> Cuvier, 1831	Benthic Invertivore	Major				+					
<i>Heniochus pleurotaenia</i> Ahl, 1923	Corallivore	Indicator	+								
<i>Heniochus singularis</i> Smith & Radcliffe, 1911	Benthic Invertivore	Major	+				+				
<i>Heniochus varius</i> (Cuvier, 1829)	Corallivore	Indicator	+			+	+	+	+		+
<i>Parachaetodon ocellatus</i> (Cuvier, 1831)	Omnivore	Indicator									+
<b>Family Chirocentridae (Wolf herrings)</b>											
<i>Chirocentrus dorab</i> (Forsskål, 1775)	Piscivore	Target									+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<b>Family Cirrhitidae (Hawkfishes)</b>											
<i>Amblycirrhitus bimacula</i> (Jenkins, 1903)	Benthic Invertivore	Major									+
<i>Cirrhichthys aprinus</i> (Cuvier, 1829)	Benthic Invertivore	Major									+
<i>Cirrhichthys falco</i> Randall, 1963	Piscivore	Major	+				+	+	+		
<i>Oxycirrhites typus</i> Bleeker, 1857	Benthic Invertivore	Major									+
<i>Paracirrhites arcatus</i> (Cuvier, 1829)	Benthic Invertivore	Major	+								+
<i>Paracirrhites forsteri</i> (Schneider, 1801)	Piscivore	Major	+				+		+	+	+
<i>Paracirrhites hemistictus</i> (Günther, 1874)	Piscivore	Major	+								
<b>Family Congridae (Conger and garden eels)</b>											
<i>Conger cinereus</i> Rüppell, 1830	Piscivore	Major									+
<i>Heteroconger hassi</i> (Klausewitz & Eibl-Eibesfeldt, 1959)	Piscivore	Major									+
<b>Family Dactylopteridae (Flying gurnards)</b>											
<i>Dactyloptena orientalis</i> (Cuvier, 1829)	Benthic Invertivore	Major									+
<b>Family Dasyatidae (Stingrays)</b>											
<i>Neotrygon kuhlii</i> (Müller & Henle, 1841)	Benthic Invertivore	Target									+
<i>Pastinachus sephen</i> (Forsskål, 1775)	Benthic Invertivore	Target									+
<i>Taeniura lymma</i> (Forsskål, 1775)	Benthic Invertivore	Target					+				+
<b>Family Diodontidae (Purcupinefishes)</b>											
<i>Diodon hystrix</i> Linnaeus, 1758	Benthic Invertivore	Target									+
<i>Diodon liturosus</i> Shaw, 1804	Benthic Invertivore	Target									+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<b>Family Drepaneidae (Sicklefishes)</b>											
<i>Drepane punctata</i> (Linnaeus, 1758)	Benthic Invertivore	Major									+
<b>Family Echeneidae (Remoras)</b>											
<i>Echeneis naucrates</i> Linnaeus, 1758	Piscivore	Major									+
<b>Family Eppiphidae (Batfishes)</b>											
<i>Platax orbicularis</i> (Forsskål, 1775)	Herbivore	Target					+	+			+
<i>Platax pinnatus</i> (Linnaeus, 1758)	Herbivore	Target									+
<i>Platax teira</i> (Forsskål, 1775)	Herbivore	Target				+		+			+
<b>Family Fistulariidae (Flutemouths)</b>											
<i>Fistularia commersonii</i> Rüppell, 1838	Piscivore	Target			+	+		+			
<i>Fistularia petimba</i> Lacepède, 1803	Piscivore	Target					+				+
<b>Family Gerreidae (Mojarras)</b>											
<i>Gerres erythrourus</i> (Bloch, 1791)	Benthic Invertivore	Major									+
<i>Gerres oyena</i> (Forsskål, 1775)	Benthic Invertivore	Major									+
<b>Family Gobiesocidae (Clingfishes and singleslits)</b>											
<i>Diademichthys lineatus</i> (Sauvage, 1883)	Benthic Invertivore	Major									+
<b>Family Gobiidae (Gobies)</b>											
<i>Amblyeleotris guttata</i> (Fowler, 1938)	Herbivore	Major									+
<i>Ctenogobiops aurocingulus</i> (Herre, 1935)	Herbivore	Major									+
<i>Exyrias puntang</i> (Bleeker, 1851)	Benthic Invertivore	Major									+
<i>Valenciennea strigata</i> (Broussonet, 1782)	Benthic Invertivore	Major	+				+				
<b>Family Haemulidae (Sweetlips)</b>											
<i>Diagramma pictum</i> (Thunberg, 1792)	Benthic Invertivore	Target	+			+					

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<i>Plectorhinchus chaetodonoides</i> Lacepède, 1801	Benthic Invertivore	Target	+			+	+	+		+	+
<i>Plectorhinchus chrysotaenia</i> (Bleeker, 1855)	Benthic Invertivore	Target									+
<i>Plectorhinchus digrammus</i> (Linnaeus, 1758)	Benthic Invertivore	Target					+				+
<i>Plectorhinchus lessonii</i> (Cuvier, 1830)	Benthic Invertivore	Target				+	+		+		
<i>Plectorhinchus lineatus</i> (Linnaeus, 1758)	Benthic Invertivore	Target					+	+			
<i>Plectorhinchus pictus</i> (Tortonese, 1936)	Piscivore	Target			+	+	+		+		+
<i>Plectorhinchus vittatus</i> (Linnaeus, 1758)	Benthic Invertivore	Target					+	+			
<i>Pomadasys maculatus</i> (Bloch, 1793)	Piscivore	Target									+
<b>Family Hemiramphidae (Halfbeaks)</b>											
<i>Hemiramphus far</i> (Forsskål, 1775)	Piscivore	Target									+
<b>Family Hemiscylliidae (Bamboo sharks)</b>											
<i>Chiloscyllium griseum</i> Müller & Henle, 1838	Piscivore	Major									+
<b>Family Holocentridae (Squirrel and Soldierfishes)</b>											
<i>Myripristis adusta</i> Bleeker, 1853	Planktivore	Target									+
<i>Myripristis berndti</i> Jordan & Evermann, 1903	Planktivore	Target				+					+
<i>Myripristis chryseres</i> Jordan & Evermann, 1903	Benthic Invertivore	Target	+								
<i>Myripristis hexagona</i> (Lacepède, 1802)	Planktivore	Target	+			+					
<i>Myripristis murdjan</i> (Forsskål, 1775)	Benthic Invertivore	Target	+				+		+		+
<i>Myripristis violacea</i> Bleeker, 1851	Benthic Invertivore	Target	+					+			
<i>Neoniphon sammara</i> (Forsskål, 1775)	Benthic Invertivore	Target	+			+	+		+		

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<i>Sargocentron caudimaculatum</i> (Rüppell, 1838)	Benthic Invertivore	Target	+				+		+		
<i>Sargocentron cornutum</i> (Bleeker, 1854)	Benthic Invertivore	Target					+				
<i>Sargocentron melanospilos</i> (Bleeker, 1858)	Benthic Invertivore	Target	+								
<i>Sargocentron microstoma</i> (Günther, 1859)	Benthic Invertivore	Target		+							
<i>Sargocentron rubrum</i> (Forsskål, 1775)	Benthic Invertivore	Target					+			+	+
<i>Sargocentron spiniferum</i> (Forsskål, 1775)	Benthic Invertivore	Target				+					+
<i>Sargocentron violaceum</i> (Bleeker, 1853)	Benthic Invertivore	Target									+
<b>Family Kyphosidae (Sea chubs)</b>											
<i>Kyphosus vaigiensis</i> (Quoy & Gaimard, 1825)	Herbivore	Target									+
<b>Family Labridae (Wrasses)</b>											
<i>Anampses caeruleopunctatus</i> Rüppell, 1829	Benthic Invertivore	Major								+	+
<i>Anampses geographicus</i> Valenciennes, 1840	Benthic Invertivore	Major									+
<i>Anampses lineatus</i> Randall, 1972	Benthic Invertivore	Major								+	
<i>Anampses melanurus</i> Bleeker, 1857	Benthic Invertivore	Major	+							+	
<i>Anampses meleagrides</i> Valenciennes, 1840	Benthic Invertivore	Major	+				+			+	
<i>Bodianus axillaris</i> (Bennett, 1832)	Benthic Invertivore	Major									
<i>Bodianus mesothorax</i> (Bloch & Schneider, 1801)	Benthic Invertivore	Major	+	+		+	+	+	+	+	+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<i>Cheilinus chlorourus</i> (Bloch, 1791)	Benthic Invertivore	Target	+			+		+	+	+	
<i>Cheilinus fasciatus</i> (Bloch, 1791)	Benthic Invertivore	Target	+	+		+	+	+	+	+	+
<i>Cheilinus oxycephalus</i> Bleeker, 1853	Benthic Invertivore	Major					+	+	+	+	
<i>Cheilinus trilobatus</i> Lacepède, 1801	Benthic Invertivore	Target	+	+		+	+	+	+	+	+
<i>Cheilinus undulatus</i> Rüppell, 1835	Benthic Invertivore	Target									+
<i>Cheilio inermis</i> (Forsskål, 1775)	Benthic Invertivore	Target	+				+		+	+	+
<i>Choerodon anchorago</i> (Bloch, 1791)	Benthic Invertivore	Target	+			+	+	+	+	+	+
<i>Choerodon jordani</i> (Snyder, 1908)	Benthic Invertivore	Target	+							+	
<i>Choerodon oligacanthus</i> (Bleeker, 1851)	Benthic Invertivore	Target				+	+			+	+
<i>Choerodon schoenleinii</i> (Valenciennes, 1839)	Benthic Invertivore	Target								+	+
<i>Cirrhilabrus cyanopleura</i> (Bleeker, 1851)	Planktivore	Major	+				+	+	+		+
<i>Cirrhilabrus rubrimarginatus</i> Randall, 1992	Planktivore	Major								+	
<i>Cirrhilabrus temminckii</i> Bleeker, 1853	Planktivore	Major									+
<i>Coris batuensis</i> (Bleeker, 1856)	Benthic Invertivore	Major	+		+	+	+		+	+	
<i>Coris dorsomacula</i> Fowler, 1908	Benthic Invertivore	Major	+				+	+	+	+	
<i>Coris gaimard</i> (Quoy & Gaimard, 1824)	Benthic Invertivore	Major	+				+		+	+	+
<i>Coris pictoides</i> Randall & Kuitert, 1982	Benthic Invertivore	Major					+			+	

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<i>Diproctacanthus xanthurus</i> (Bleeker, 1856)	Corallivore	Indicator	+	+	+	+	+	+	+	+	
<i>Epibulus insidiator</i> (Pallas, 1770)	Piscivore	Target	+				+	+	+		
<i>Gomphosus varius</i> Lacepède, 1801	Benthic Invertivore	Major	+		+	+	+	+			+
<i>Halichoeres argus</i> (Bloch & Schneider, 1801)	Benthic Invertivore	Major					+			+	
<i>Halichoeres biocellatus</i> Schultz, 1960	Benthic Invertivore	Major								+	
<i>Halichoeres chlorocephalus</i> Kuitert & Randall, 1995	Benthic Invertivore	Major					+				
<i>Halichoeres chloropterus</i> Kuitert & Randall, 1995	Benthic Invertivore	Major	+				+			+	+
<i>Halichoeres hortulanus</i> (Lacepède, 1801)	Benthic Invertivore	Major	+	+		+	+	+	+	+	+
<i>Halichoeres leucurus</i> (Walbaum, 1792)	Benthic Invertivore	Major	+	+		+		+	+	+	
<i>Halichoeres melanochir</i> Fowler & Bean, 1928	Benthic Invertivore	Major	+							+	
<i>Halichoeres melanurus</i> (Bleeker, 1851)	Benthic Invertivore	Major	+	+	+	+	+	+		+	+
<i>Halichoeres ornatissimus</i> (Garrett, 1863)	Benthic Invertivore	Major					+			+	
<i>Halichoeres podostigma</i> (Bleeker, 1854)	Benthic Invertivore	Major	+							+	
<i>Halichoeres prosopeion</i> (Bleeker, 1853)	Benthic Invertivore	Major	+							+	
<i>Halichoeres richmondi</i> Fowler & Bean, 1928	Benthic Invertivore	Major	+	+		+	+			+	
<i>Halichoeres scapularis</i> (Bennett, 1832)	Benthic Invertivore	Major									+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<i>Halichoeres vrolickii</i> (Bleeker, 1855)	Benthic Invertivore	Major	+								
<i>Hemigymnus fasciatus</i> (Bloch, 1792)	Benthic Invertivore	Target	+			+	+	+	+	+	
<i>Hemigymnus melapterus</i> Günther, 1862	Benthic Invertivore	Target	+	+		+	+	+	+	+	
<i>Hologymnosus annulatus</i> (Lacepède, 1801)	Piscivore	Major					+			+	+
<i>Hologymnosus doliatus</i> (Lacepède, 1801)	Piscivore	Major	+						+		
<i>Hologymnosus rhodonotus</i> Randall & Yamakawa, 1988	Piscivore	Major	+			+					
<i>Iniistus pentadactylus</i> (Linnaeus, 1758)	Benthic Invertivore	Major									+
<i>Labrichthys unilineatus</i> (Guichenot, 1847)	Corallivore	Indicator					+	+	+	+	
<i>Labroides bicolor</i> Fowler & Bean, 1928	Benthic Invertivore	Major	+				+	+			
<i>Labroides dimidiatus</i> (Valenciennes, 1839)	Benthic Invertivore	Major	+	+	+	+	+	+	+	+	+
<i>Labroides pectoralis</i> Randall & Springer, 1975	Benthic Invertivore	Major		+	+					+	
<i>Labropsis alleni</i> Randall, 1981	Benthic Invertivore	Major								+	
<i>Leptojulius cyanopleura</i> (Bleeker, 1853)	Planktivore	Major				+				+	
<i>Macropharyngodon meleagris</i> (Valenciennes, 1839)	Benthic Invertivore	Major	+				+	+	+	+	+
<i>Macropharyngodon negrosensis</i> Herre, 1932	Benthic Invertivore	Major	+							+	
<i>Novaculichthys taeniourus</i> (Lacepède, 1801)	Benthic Invertivore	Major	+							+	+
<i>Oxycheilinus celebicus</i> (Bleeker, 1853)	Piscivore	Target	+			+	+	+	+	+	+
<i>Oxycheilinus digramma</i> (Lacepède, 1801)	Piscivore	Target	+				+	+	+	+	+
<i>Oxycheilinus unifasciatus</i> (Streets, 1877)	Piscivore	Target	+				+				



<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<i>Paracheilinus angulatus</i> Randall & Lubbock, 1981	Benthic Invertivore	Major								+	
<i>Pseudocheilinus evanidus</i> Jordan & Evermann, 1903	Benthic Invertivore	Major					+				+
<i>Pseudocheilinus hexataenia</i> (Bleeker, 1857)	Benthic Invertivore	Major	+				+	+	+	+	+
<i>Pseudocheilinus octotaenia</i> Jenkins, 1901	Benthic Invertivore	Major					+				+
<i>Pseudocoris bleekeri</i> (Hubrecht, 1876)	Planktivore	Major	+								
<i>Pseudocoris heteroptera</i> (Bleeker, 1857)	Planktivore	Major	+								
<i>Pseudodax moluccanus</i> (Valenciennes, 1840)	Omnivore	Major							+		
<i>Pseudojuloides cerasinus</i> (Snyder, 1904)	Benthic Invertivore	Major	+						+		
<i>Pteragogus flagellifera</i> (Valenciennes, 1839)	Benthic Invertivore	Major									+
<i>Pteragogus guttatus</i> (Fowler & Bean, 1928)	Benthic Invertivore	Major							+		
<i>Stethojulis bandanensis</i> (Bleeker, 1851)	Benthic Invertivore	Major	+	+	+	+	+	+	+	+	+
<i>Stethojulis trilineata</i> (Bloch & Schneider, 1801)	Benthic Invertivore	Major	+			+	+		+		+
<i>Thalassoma amblycephalum</i> (Bleeker, 1856)	Planktivore	Major								+	
<i>Thalassoma hardwicke</i> (Bennett, 1830)	Benthic Invertivore	Major	+	+	+	+	+	+	+	+	+
<i>Thalassoma janseni</i> (Bleeker, 1856)	Benthic Invertivore	Major	+								
<i>Thalassoma lunare</i> (Linnaeus, 1758)	Benthic Invertivore	Major	+	+	+	+	+	+	+	+	+
<i>Thalassoma purpureum</i> (Forsskål, 1775)	Benthic Invertivore	Major								+	

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<b>Family Latidae (Lates perches)</b>											
<i>Psammoperca waigiensis</i> (Cuvier, 1828)	Piscivore	Target									+
<b>Family Lethrinidae (Emperors)</b>											
<i>Gnathodentex aureolineatus</i> (Lacepède, 1802)	Benthic Invertivore	Target	+				+				
<i>Gymnocranius frenatus</i> Bleeker, 1873	Benthic Invertivore	Target								+	
<i>Gymnocranius grandoculis</i> (Valenciennes, 1830)	Benthic Invertivore	Target								+	
<i>Gymnocranius griseus</i> (Temminck & Schlegel, 1843)	Benthic Invertivore	Target									+
<i>Lethrinus erythropterus</i> Valenciennes, 1830	Piscivore	Target	+			+	+	+			
<i>Lethrinus harak</i> (Forsskål, 1775)	Piscivore	Target				+					+
<i>Lethrinus lentjan</i> (Lacepède, 1802)	Piscivore	Target							+	+	+
<i>Lethrinus miniatus</i> (Forster, 1801)	Piscivore	Target									+
<i>Lethrinus nebulosus</i> (Forsskål, 1775)	Piscivore	Target									+
<i>Lethrinus ornatus</i> Valenciennes, 1830	Piscivore	Target									+
<i>Lethrinus reticulatus</i> Valenciennes, 1830	Piscivore	Target									+
<i>Lethrinus variegatus</i> Valenciennes, 1830	Piscivore	Target									+
<i>Monotaxis grandoculis</i> (Forsskål, 1775)	Benthic Invertivore	Target	+			+	+	+	+		+
<b>Family Lutjanidae (Snappers)</b>											
<i>Aphareus rutilans</i> Cuvier, 1830	Piscivore	Target									+
<i>Lutjanus argentimaculatus</i> (Forsskål, 1775)	Piscivore	Target									+
<i>Lutjanus biguttatus</i> (Valenciennes, 1830)	Piscivore	Target	+		+		+	+	+	+	+
<i>Lutjanus bohar</i> (Forsskål, 1775)	Piscivore	Target	+						+		+
<i>Lutjanus carponotatus</i> (Richardson, 1842)	Piscivore	Target				+	+	+	+	+	+
<i>Lutjanus decussatus</i> (Cuvier, 1828)	Piscivore	Target				+	+	+	+	+	+
<i>Lutjanus ehrenbergii</i> (Peters, 1869)	Piscivore	Target							+		+
<i>Lutjanus fulviflamma</i> (Forsskål, 1775)	Piscivore	Target				+	+	+			+
<i>Lutjanus fulvus</i> (Forster, 1801)	Piscivore	Target									+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<i>Lutjanus gibbus</i> (Forsskål, 1775)	Piscivore	Target									+
<i>Lutjanus kasmira</i> (Forsskål, 1775)	Piscivore	Target					+				
<i>Lutjanus lutjanus</i> Bloch, 1790	Piscivore	Target	+								+
<i>Lutjanus monostigma</i> (Cuvier, 1828)	Piscivore	Target									+
<i>Lutjanus notatus</i> (Cuvier, 1828)	Piscivore	Target									+
<i>Lutjanus quinquelineatus</i> (Bloch, 1790)	Piscivore	Target					+				+
<i>Lutjanus rivulatus</i> (Cuvier, 1828)	Piscivore	Target									+
<i>Lutjanus russellii</i> (Bleeker, 1849)	Piscivore	Target			+	+			+	+	+
<i>Lutjanus sebae</i> (Cuvier, 1816)	Piscivore	Target									+
<i>Lutjanus vitta</i> (Quoy & Gaimard, 1824)	Piscivore	Target	+			+					
<i>Macolor macularis</i> Fowler, 1931	Piscivore	Target	+						+		
<i>Macolor niger</i> (Forsskål, 1775)	Piscivore	Target	+								+
<i>Symphorichthys spilurus</i> (Günther, 1874)	Piscivore	Target									+
<i>Symphorus nematophorus</i> (Bleeker, 1860)	Piscivore	Target									+
<b>Family Malacanthidae (Tilefishes)</b>											
<i>Malacanthus latovittatus</i> (Lacepède, 1801)	Benthic Invertivore	Major									+
<b>Family Microdesmidae (Ribbon and Dart gobies)</b>											
<i>Ptereleotris evides</i> (Jordan & Hubbs, 1925)	Planktivore	Major				+	+	+			+
<b>Family Monacanthidae (Filefishes)</b>											
<i>Amanses scopas</i> (Cuvier, 1829)	Herbivore	Major									+
<i>Cantherhines pardalis</i> (Rüppell, 1837)	Benthic Invertivore	Major						+			
<i>Chaetodermis penicilligerus</i> (Cuvier, 1816)	Benthic Invertivore	Major									+
<i>Monacanthus chinensis</i> (Osbeck, 1765)	Benthic Invertivore	Major									+
<i>Oxymonacanthus longirostris</i> (Bloch & Schneider, 1801)	Corallivore	Indicator									+
<i>Pseudomonacanthus macrurus</i> (Bleeker, 1856)	Benthic Invertivore	Major									+
<i>Stephanolepis japonicus</i> (Tilesius, 1809)	Omnivore	Major									+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<b>Family Mugilidae (Mulletts)</b>											
<i>Crenimugil seheli</i> (Forsskål, 1775)	Benthic Invertivore	Target									+
<i>Ellochelon vaigiensis</i> (Quoy & Gaimard, 1825)	Benthic Invertivore	Target									+
<b>Family Mullidae (Goatfishes)</b>											
<i>Mulloidichthys flavolineatus</i> (Lacepède, 1801)	Benthic Invertivore	Target			+		+				
<i>Parupeneus barberinoides</i> (Bleeker, 1852)	Benthic Invertivore	Target	+	+					+	+	+
<i>Parupeneus barberinus</i> (Lacepède, 1801)	Benthic Invertivore	Target	+			+	+	+	+	+	+
<i>Parupeneus bifasciatus</i> (Lacepède, 1801)	Benthic Invertivore	Target	+	+		+	+	+	+	+	+
<i>Parupeneus cyclostomus</i> (Lacepède, 1801)	Benthic Invertivore	Target					+	+			
<i>Parupeneus indicus</i> (Shaw, 1803)	Benthic Invertivore	Target					+				+
<i>Parupeneus heptacanthus</i> (Lacepède, 1802)	Benthic Invertivore	Target									+
<i>Parupeneus multifasciatus</i> (Quoy & Gaimard, 1825)	Benthic Invertivore	Target	+	+			+	+	+	+	
<i>Parupeneus pleurostigma</i> (Bennett, 1831)	Benthic Invertivore	Target	+								
<i>Parupeneus trifasciatus</i> (Lacepède, 1801)	Benthic Invertivore	Target						+			+
<i>Upeneus moluccensis</i> (Bleeker, 1855)	Benthic Invertivore	Target									+
<i>Upeneus tragula</i> Richardson, 1846	Benthic Invertivore	Target					+				+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<i>Upeneus vittatus</i> (Forsskål, 1775)	Benthic Invertivore	Target									+
<b>Family Muraenidae (Moray eels)</b>											
<i>Echidna nebulosa</i> (Ahl, 1789)	Benthic Invertivore	Target									+
<i>Gymnothorax favagineus</i> Bloch & Schneider, 1801	Piscivore	Target									+
<i>Gymnothorax javanicus</i> (Bleeker, 1859)	Piscivore	Target									+
<i>Gymnothorax pseudothyrsoides</i> (Bleeker, 1853)	Piscivore	Target									+
<i>Gymnothorax undulatus</i> (Lacepède, 1803)	Piscivore	Target						+			+
<i>Rhinomuraena quaesita</i> Garman, 1888	Piscivore	Target									+
<b>Family Myliobathidae (Eagle and Manta rays)</b>											
<i>Rhinoptera javanica</i> Müller & Henle, 1841	Planktivore	Target									+
<b>Family Nemipteridae (Coral breams)</b>											
<i>Pentapodus bifasciatus</i> (Bleeker, 1848)	Benthic Invertivore	Target	+				+	+	+	+	
<i>Pentapodus caninus</i> (Cuvier, 1830)	Benthic Invertivore	Target	+				+	+		+	+
<i>Pentapodus emeryii</i> (Richardson, 1843)	Benthic Invertivore	Target	+					+	+	+	
<i>Pentapodus trivittatus</i> (Bloch, 1791)	Benthic Invertivore	Target							+	+	
<i>Scolopsis affinis</i> Peters, 1877	Benthic Invertivore	Target		+							
<i>Scolopsis bilineata</i> (Bloch, 1793)	Benthic Invertivore	Target	+			+	+	+	+	+	+
<i>Scolopsis ciliatus</i> (Lacepède, 1802)	Benthic Invertivore	Target			+		+	+		+	+
<i>Scolopsis lineata</i> Quoy & Gaimard, 1824	Benthic Invertivore	Target	+				+			+	+
<i>Scolopsis margaritifer</i> (Cuvier, 1830)	Benthic Invertivore	Target	+	+	+	+	+	+	+	+	+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<i>Scolopsis monogramma</i> (Cuvier, 1830)	Benthic Invertivore	Target	+						+		
<i>Scolopsis taenioptera</i> (Cuvier, 1830)	Benthic Invertivore	Target					+				+
<i>Scolopsis temporalis</i> (Cuvier, 1830)	Benthic Invertivore	Target	+			+				+	+
<i>Scolopsis trilineata</i> Kner, 1868	Benthic Invertivore	Target					+				
<i>Scolopsis xenochroa</i> Günther, 1872	Benthic Invertivore	Target									+
<b>Family Ophichthidae (Snake eels)</b>											
<i>Ophichthus cephalozona</i> Bleeker, 1864	Benthic Invertivore	Major									+
<b>Family Opistognathidae (Jawfishes)</b>											
<i>Opistognathus dentriticus</i> (Jordan & Richardson, 1908)	Benthic Invertivore	Major									+
<b>Family Ostraciidae (Boxfishes)</b>											
<i>Lactoria cornuta</i> (Linnaeus, 1758)	Benthic Invertivore	Major									+
<i>Ostracion cubicus</i> Linnaeus, 1758	Benthic Invertivore	Major									+
<i>Ostracion meleagris</i> Shaw, 1796	Benthic Invertivore	Major					+	+			+
<i>Ostracion solorensis</i> Bleeker, 1853	Benthic Invertivore	Major									+
<i>Rhynchostracion rhinorhynchos</i> Bleeker, 1851	Benthic Invertivore	Major									+
<i>Tetrosomus gibbosus</i> (Linnaeus, 1758)	Benthic Invertivore	Major									+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<b>Family Pempheridae (Bullseyes)</b>											
<i>Pempheris oualensis</i> Cuvier, 1831	Benthic Invertivore	Major									+
<i>Pempheris vanicolensis</i> Cuvier, 1831	Benthic Invertivore	Major	+						+	+	
<b>Family Pholidichthidae (Convict blenny)</b>											
<i>Pholidichthys leucotaenia</i> Bleeker, 1856	Benthic Invertivore	Major									+
<b>Family Pinguipedidae (Grubfishes)</b>											
<i>Parapercis clathrata</i> Ogilby, 1910	Benthic Invertivore	Major	+				+		+	+	+
<i>Parapercis hexophthalma</i> (Cuvier, 1829)	Benthic Invertivore	Major	+						+		
<i>Parapercis tetracantha</i> (Lacepède, 1801)	Benthic Invertivore	Major									+
<b>Family Platycephalidae (Flatheads)</b>											
<i>Thysanophrys chiltonae</i> Schultz, 1966	Benthic Invertivore	Major									+
<b>Family Plotosidae (Eel tail catfishes)</b>											
<i>Plotosus lineatus</i> (Bloch, 1794)	Benthic Invertivore	Major								+	+
<b>Family Pomacanthidae (Angelfishes)</b>											
<i>Apolemichthys trimaculatus</i> (Cuvier, 1831)	Benthic Invertivore	Major	+				+				+
<i>Centropyge bicolor</i> (Bloch, 1787)	Benthic Invertivore	Major	+				+		+		+
<i>Centropyge bispinosa</i> (Günther, 1860)	Herbivore	Major	+								+
<i>Centropyge flavissima</i> (Cuvier, 1831)	Herbivore	Major	+								
<i>Centropyge nox</i> (Bleeker, 1853)	Herbivore	Major	+								+
<i>Centropyge tibicen</i> (Cuvier, 1831)	Herbivore	Major	+				+	+	+		+
<i>Centropyge vrolikii</i> (Bleeker, 1853)	Herbivore	Major	+			+	+	+	+		+

Family and species	Trophic group	Group	Aborlan	Bataraza	Brooke's Pt.	Narra	PPC	Roxas	Española	Taytay	WS Sea <sup>1</sup>
<i>Chaetodontoplus dimidiatus</i> (Bleeker, 1860)	Herbivore	Indicator	+								
<i>Chaetodontoplus meredithi</i> Kuitert, 1990	Herbivore	Indicator	+							+	
<i>Chaetodontoplus mesoleucus</i> (Bloch, 1787)	Corallivore	Major	+	+		+	+	+	+	+	+
<i>Genicanthus bellus</i> Randall, 1975	Herbivore	Major								+	
<i>Genicanthus lamarck</i> (Lacepède, 1802)	Planktivore	Major									+
<i>Genicanthus melanospilos</i> (Bleeker, 1857)	Planktivore	Major								+	
<i>Genicanthus semifasciatus</i> (Waite, 1900)	Planktivore	Major	+							+	
<i>Genicanthus watanabei</i> (Yasuda & Tominaga, 1970)	Planktivore	Major								+	
<i>Paracentropyge multifasciata</i> (Smith & Radcliffe, 1911)	Corallivore	Indicator					+			+	
<i>Pomacanthus imperator</i> (Bloch, 1787)	Omnivore	Major	+			+			+		+
<i>Pomacanthus semicirculatus</i> (Cuvier, 1831)	Herbivore	Major									+
<i>Pomacanthus sexstriatus</i> (Cuvier, 1831)	Omnivore	Major					+	+			+
<i>Pomacanthus xanthometopon</i> (Bleeker, 1853)	Omnivore	Major	+							+	+
<i>Pygoplites diacanthus</i> (Boddaert, 1772)	Benthic Invertivore	Major	+			+	+	+	+	+	+
<b>Family Pomacentridae (Damsel fishes)</b>											
<i>Abudefduf bengalensis</i> (Bloch, 1787)	Planktivore	Major								+	
<i>Abudefduf lorenzi</i> Hensley & Allen, 1977	Planktivore	Major								+	+
<i>Abudefduf septemfasciatus</i> (Cuvier, 1830)	Omnivore	Major									+
<i>Abudefduf sexfasciatus</i> (Lacepède, 1801)	Herbivore	Major	+		+	+	+	+	+	+	+
<i>Abudefduf sordidus</i> (Forsskål, 1775)	Herbivore	Major									+
<i>Abudefduf vaigiensis</i> (Quoy & Gaimard, 1825)	Herbivore	Major		+	+	+	+	+	+		+
<i>Acanthochromis polyacanthus</i> (Bleeker, 1855)	Planktivore	Major	+			+	+	+	+	+	+
<i>Amblyglyphidodon aureus</i> (Cuvier, 1830)	Planktivore	Major	+				+	+		+	+
<i>Amblyglyphidodon batunai</i> Allen, 1995	Planktivore	Major				+	+	+			
<i>Amblyglyphidodon curacao</i> (Bloch, 1787)	Planktivore	Major	+	+	+	+	+	+	+	+	+
<i>Amblyglyphidodon leucogaster</i> (Bleeker, 1847)	Planktivore	Major	+	+		+	+	+	+	+	
<i>Amblyglyphidodon ternatensis</i> (Bleeker, 1853)	Planktivore	Major			+	+	+	+			
<i>Amblypomacentrus breviceps</i> (Schlegel & Müller, 1839)	Planktivore	Major	+			+		+		+	
<i>Amphiprion clarkii</i> (Bennett, 1830)	Planktivore	Major	+				+	+	+		+
<i>Amphiprion frenatus</i> Brevoort, 1856	Herbivore	Major					+				+



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<i>Amphiprion melanopus</i> Bleeker, 1852	Planktivore	Major					+			+	
<i>Amphiprion ocellaris</i> Cuvier, 1830	Omnivore	Major	+	+		+	+		+		+
<i>Amphiprion perideraion</i> Bleeker, 1855	Herbivore	Major			+	+	+			+	+
<i>Amphiprion polymnus</i> (Linnaeus, 1758)	Omnivore	Major									+
<i>Amphiprion sandaracinos</i> Allen, 1972	Planktivore	Major					+	+	+		+
<i>Cheiloprion labiatus</i> (Day, 1877)	Corallivore	Indicator								+	
<i>Chromis amboinensis</i> (Bleeker, 1871)	Planktivore	Major	+					+	+	+	+
<i>Chromis analis</i> (Cuvier, 1830)	Planktivore	Major				+		+			+
<i>Chromis atripectoralis</i> Welander & Schultz, 1951	Planktivore	Major	+	+					+		
<i>Chromis atripes</i> Fowler & Bean, 1928	Planktivore	Major								+	+
<i>Chromis caudalis</i> Randall, 1988	Planktivore	Major	+			+				+	
<i>Chromis elerae</i> Fowler & Bean, 1928	Planktivore	Major									+
<i>Chromis flavomaculata</i> Kamohara, 1960	Planktivore	Major					+			+	
<i>Chromis lepidolepis</i> Bleeker, 1877	Planktivore	Major	+			+	+	+	+	+	
<i>Chromis margaritifer</i> Fowler, 1946	Planktivore	Major	+				+		+	+	+
<i>Chromis opercularis</i> (Günther, 1867)	Planktivore	Major							+		
<i>Chromis retrofasciata</i> Weber, 1913	Planktivore	Major	+						+		+
<i>Chromis ternatensis</i> (Bleeker, 1856)	Planktivore	Major	+			+	+	+	+	+	+
<i>Chromis viridis</i> (Cuvier, 1830)	Planktivore	Major	+		+	+	+	+	+	+	
<i>Chromis weberi</i> Fowler & Bean, 1928	Omnivore	Major	+	+	+	+	+	+	+		
<i>Chromis xanthochira</i> (Bleeker, 1851)	Planktivore	Major									+
<i>Chromis xanthura</i> (Bleeker, 1854)	Planktivore	Major	+	+	+	+	+		+	+	+
<i>Chrysiptera biocellata</i> (Quoy & Gaimard, 1825)	Herbivore	Major					+	+		+	
<i>Chrysiptera brownriggii</i> (Bennett, 1828)	Herbivore	Major									+
<i>Chrysiptera cyanea</i> (Quoy & Gaimard, 1825)	Herbivore	Major	+				+	+		+	
<i>Chrysiptera oxycephala</i> (Bleeker, 1877)	Herbivore	Major				+		+	+	+	
<i>Chrysiptera parasema</i> (Fowler, 1918)	Herbivore	Major	+	+	+	+	+	+	+	+	+
<i>Chrysiptera rex</i> (Snyder, 1909)	Herbivore	Major	+	+		+				+	
<i>Chrysiptera rollandi</i> (Whitley, 1961)	Herbivore	Major	+	+		+	+	+	+	+	+
<i>Dascyllus aruanus</i> (Linnaeus, 1758)	Herbivore	Major	+		+	+	+	+	+		+
<i>Dascyllus melanurus</i> Bleeker, 1854	Herbivore	Major	+				+	+	+	+	+

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<i>Dascyllus reticulatus</i> (Richardson, 1846)	Herbivore	Major	+			+	+	+		+	
<i>Dascyllus trimaculatus</i> (Rüppell, 1829)	Herbivore	Major	+			+	+	+	+	+	+
<i>Dischistodus fasciatus</i> (Cuvier, 1830)	Herbivore	Major									+
<i>Dischistodus melanotus</i> (Bleeker, 1858)	Herbivore	Major					+	+		+	
<i>Dischistodus perspicillatus</i> (Cuvier, 1830)	Herbivore	Major		+	+	+	+	+		+	+
<i>Dischistodus prosopotaenia</i> (Bleeker, 1852)	Herbivore	Major			+	+			+		
<i>Hemiglyphidodon plagiometopon</i> (Bleeker, 1852)	Herbivore	Major					+	+		+	+
<i>Neoglyphidodon bonang</i> (Bleeker, 1852)	Herbivore	Major				+		+	+		
<i>Neoglyphidodon crossi</i> Allen, 1991	Herbivore	Major				+				+	
<i>Neoglyphidodon melas</i> (Cuvier, 1830)	Herbivore	Major	+	+		+	+	+	+	+	+
<i>Neoglyphidodon nigroris</i> (Cuvier, 1830)	Herbivore	Major	+	+		+	+	+	+	+	+
<i>Neoglyphidodon oxyodon</i> (Bleeker, 1858)	Herbivore	Major	+			+				+	+
<i>Neoglyphidodon thoracotaeniatus</i> (Fowler & Bean, 1928)	Herbivore	Major	+	+	+	+	+				
<i>Neopomacentrus filamentosus</i> (Macleay, 1882)	Planktivore	Major	+								
<i>Plectroglyphidodon dickii</i> (Liénard, 1839)	Herbivore	Major	+	+		+	+			+	
<i>Plectroglyphidodon lacrymatus</i> (Quoy & Gaimard, 1825)	Herbivore	Major	+		+	+	+	+	+	+	+
<i>Pomacentrus adelus</i> Allen, 1991	Planktivore	Major	+	+	+				+	+	
<i>Pomacentrus alexanderae</i> Evermann & Seale, 1907	Planktivore	Major	+			+	+	+	+	+	
<i>Pomacentrus amboinensis</i> Bleeker, 1868	Herbivore	Major	+				+		+		+
<i>Pomacentrus armillatus</i> Allen, 1993	Herbivore	Major				+				+	
<i>Pomacentrus bankanensis</i> Bleeker, 1854	Herbivore	Major	+				+	+	+		
<i>Pomacentrus brachialis</i> Cuvier, 1830	Herbivore	Major	+			+	+		+	+	+
<i>Pomacentrus burroughi</i> Fowler, 1918	Herbivore	Major	+			+	+	+	+		
<i>Pomacentrus chrysurus</i> Cuvier, 1830	Herbivore	Major	+			+			+	+	
<i>Pomacentrus coelestis</i> Jordan & Starks, 1901	Herbivore	Major				+					
<i>Pomacentrus geminospilos</i> Allen, 1993	Herbivore	Major				+				+	
<i>Pomacentrus lepidogenys</i> Fowler & Bean, 1928	Planktivore	Major	+			+	+	+	+	+	+
<i>Pomacentrus littoralis</i> Cuvier, 1830	Herbivore	Major	+			+		+			
<i>Pomacentrus moluccensis</i> Bleeker, 1853	Herbivore	Major	+	+	+	+	+	+	+	+	+
<i>Pomacentrus opisthostigma</i> Fowler, 1918	Herbivore	Major				+				+	
<i>Pomacentrus philippinus</i> Evermann & Seale, 1907	Herbivore	Major	+			+	+	+	+	+	+

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<i>Pomacentrus proteus</i> Allen, 1991	Herbivore	Major	+								
<i>Pomacentrus simsiang</i> Bleeker, 1856	Herbivore	Major				+	+	+		+	
<i>Pomacentrus smithi</i> Fowler & Bean, 1928	Planktivore	Major	+	+	+	+		+	+	+	
<i>Pomacentrus stigma</i> Fowler & Bean, 1928	Herbivore	Major	+	+	+	+	+	+	+	+	
<i>Pomacentrus tripunctatus</i> Cuvier, 1830	Herbivore	Major								+	
<i>Pomacentrus vaiuli</i> Jordan & Seale, 1906	Herbivore	Major	+				+	+	+		+
<i>Premnas biaculeatus</i> (Bloch, 1790)	Planktivore	Major									+
<i>Stegastes aureus</i> (Fowler, 1927)	Planktivore	Major								+	
<i>Stegastes lividus</i> (Forster, 1801)	Herbivore	Major					+				
<i>Stegastes nigricans</i> (Lacepède, 1802)	Herbivore	Major								+	
<b>Family Priacanthidae (Bigeyes)</b>											
<i>Priacanthus hamrur</i> (Forsskål, 1775)	Benthic Invertivore	Target									+
<i>Priacanthus tayenus</i> Richardson, 1846	Benthic Invertivore	Target									+
<b>Family Pseudochromidae (Dottybacks)</b>											
<i>Congrogadus subducens</i> (Richardson, 1843)	Benthic Invertivore	Major									+
<i>Labracinus cyclophthalmus</i> (Müller & Troschel, 1849)	Piscivore	Major	+				+	+	+		+
<i>Pictichromis diadema</i> (Lubbock & Randall, 1978)	Benthic Invertivore	Major									+
<i>Pseudochromis fuscus</i> Müller & Troschel, 1849	Benthic Invertivore	Major	+				+				
<b>Family Rachycentridae (Cobia)</b>											
<i>Rachycentron canadum</i> (Linnaeus, 1766)	Piscivore	Target									+
<b>Family Scarus (Parrotfishes)</b>											
<i>Calotomus spinidens</i> (Quoy & Gaimard, 1824)	Herbivore	Target									+
<i>Cetoscarus bicolor</i> (Rüppell, 1829)	Herbivore	Target	+	+		+	+	+		+	+
<i>Chlorurus bleekeri</i> (de Beaufort, 1940)	Herbivore	Target	+			+	+	+	+	+	
<i>Chlorurus bowersi</i> (Snyder, 1909)	Herbivore	Target	+			+		+		+	
<i>Chlorurus capistratoides</i> (Bleeker, 1847)	Herbivore	Target		+			+		+		

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<i>Chlorurus microrhinos</i> (Bleeker, 1854)	Herbivore	Target	+								
<i>Chlorurus sordidus</i> (Forsskål, 1775)	Herbivore	Target	+					+	+	+	
<i>Hipposcarus harid</i> (Forsskål, 1775)	Herbivore	Target									+
<i>Hipposcarus longiceps</i> (Valenciennes, 1840)	Herbivore	Target	+			+	+	+	+	+	
<i>Leptoscarus vaigiensis</i> (Quoy & Gaimard, 1824)	Herbivore	Target									+
<i>Scarus altipinnis</i> (Steindachner, 1879)	Herbivore	Target	+	+		+					
<i>Scarus dimidiatus</i> Bleeker, 1859	Herbivore	Target	+	+				+			
<i>Scarus fasciatus</i> Valenciennes, 1840	Herbivore	Target									+
<i>Scarus forsteni</i> (Bleeker, 1861)	Herbivore	Target							+	+	
<i>Scarus frenatus</i> Lacepède, 1802	Herbivore	Target				+	+	+		+	
<i>Scarus hypselopterus</i> Bleeker, 1853	Herbivore	Target							+		
<i>Scarus ghobban</i> Forsskål, 1775	Herbivore	Target	+	+		+	+	+		+	+
<i>Scarus globiceps</i> Valenciennes, 1840	Herbivore	Target		+							+
<i>Scarus niger</i> Forsskål, 1775	Herbivore	Target	+			+					
<i>Scarus oviceps</i> Valenciennes, 1840	Herbivore	Target	+					+	+	+	
<i>Scarus prasiognathos</i> Valenciennes, 1840	Herbivore	Target				+					
<i>Scarus psittacus</i> Forsskål, 1775	Herbivore	Target								+	+
<i>Scarus quoyi</i> Valenciennes, 1840	Herbivore	Target						+			+
<i>Scarus rubroviolaceus</i> Bleeker, 1847	Herbivore	Target					+	+			
<i>Scarus schlegeli</i> (Bleeker, 1861)	Herbivore	Target	+	+		+		+	+	+	
<i>Scarus tricolor</i> Bleeker, 1847	Herbivore	Target	+								
<b>Family Scatophagidae (Scats)</b>											
<i>Scatophagus argus</i> (Linnaeus, 1766)	Herbivore	Target									+
<b>Family Scorpaenidae (Lionfishes)</b>											
<i>Caracanthus maculatus</i> (Gray, 1831)	Benthic Invertivore	Major									+
<i>Dendrochirus biocellatus</i> (Fowler, 1938)	Benthic Invertivore	Major									+
<i>Dendrochirus zebra</i> (Cuvier, 1829)	Piscivore	Major									+
<i>Pterois volitans</i> (Linnaeus, 1758)	Benthic Invertivore	Major	+			+					+

Family and species	Trophic group	Group	Aborlan	Bataraza	Brooke's Pt.	Narra	PPC	Roxas	Española	Taytay	WS Sea <sup>1</sup>
<i>Taenianotus triacanthus</i> Lacepède, 1802	Benthic Invertivore	Major									+
<b>Family Serranidae (Groupers and Rock cods)</b>											
<i>Aethaloperca rogaa</i> (Forsskål, 1775)	Piscivore	Target									+
<i>Anyperodon leucogrammicus</i> (Valenciennes, 1828)	Piscivore	Target								+	
<i>Cephalopholis argus</i> Schneider, 1801	Piscivore	Target					+		+	+	+
<i>Cephalopholis boenak</i> (Bloch, 1790)	Piscivore	Target	+			+	+	+	+	+	+
<i>Cephalopholis cyanostigma</i> (Valenciennes, 1828)	Piscivore	Target	+		+	+	+	+	+	+	
<i>Cephalopholis ormosa</i> (Shaw, 1812)	Piscivore	Target	+								
<i>Cephalopholis microprion</i> (Bleeker, 1852)	Piscivore	Target		+		+	+	+	+	+	
<i>Cephalopholis miniata</i> (Forsskål, 1775)	Piscivore	Target						+			+
<i>Cephalopholis polleni</i> (Bleeker, 1868)	Piscivore	Target	+								-
<i>Cephalopholis sexmaculata</i> (Rüppell, 1830)	Piscivore	Target				+					
<i>Cephalopholis urodeta</i> (Valenciennes, 1828)	Piscivore	Target	+				+		+	+	+
<i>Cromileptes altivelis</i> (Valenciennes, 1828)	Piscivore	Target			+			+			+
<i>Diploprion bifasciatum</i> Cuvier, 1828	Piscivore	Target					+	+	+		+
<i>Epinephelus areolatus</i> (Forsskål, 1775)	Piscivore	Target									+
<i>Epinephelus fasciatus</i> (Forsskål, 1775)	Piscivore	Target	+				+		+	+	+
<i>Epinephelus fuscoguttatus</i> (Forsskål, 1775)	Piscivore	Target									+
<i>Epinephelus malabaricus</i> (Bloch & Schneider, 1801)	Piscivore	Target				+					+
<i>Epinephelus merra</i> Bloch, 1793	Piscivore	Target	+			+	+	+	+		+
<i>Epinephelus quoyanus</i> (Valenciennes, 1830)	Piscivore	Target							+		
<i>Epinephelus sexfasciatus</i> (Valenciennes, 1828)	Benthic Invertivore	Target	+			+					+
<i>Epinephelus undulosus</i> (Quoy & Gaimard, 1824)	Piscivore	Target									+
<i>Epinephelus cyanopodus</i> (Richardson, 1846)	Piscivore	Target									+
<i>Epinephelus macrospilos</i> (Bleeker, 1855)	Piscivore	Target									+
<i>Epinephelus polyphemadion</i> (Bleeker, 1849)	Piscivore	Target									+
<i>Grammistes sexlineatus</i> (Thunberg, 1792)	Piscivore	Major	+								+
<i>Liopropoma susumi</i> (Jordan & Seale, 1906)	Piscivore	Major	+								
<i>Plectropomus leopardus</i> (Lacepède, 1802)	Piscivore	Target	+			+	+	+	+	+	+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<i>Plectropomus maculatus</i> (Bloch, 1790)	Piscivore	Target									+
<i>Plectropomus oligacanthus</i> (Bleeker, 1855)	Piscivore	Target									+
<i>Plectropomus laevis</i> (Lacepède, 1801)	Piscivore	Target									+
<i>Pseudanthias bicolor</i> (Randall, 1979)	Planktivore	Major									+
<i>Pseudanthias huchtii</i> (Bleeker, 1857)	Planktivore	Major	+				+	+	+		+
<i>Pseudanthias squamipinnis</i> (Peters, 1855)	Planktivore	Major	+								+
<i>Pseudanthias parvirostris</i> (Randall & Lubbock, 1981)	Planktivore	Major									+
<i>Pseudanthias pleurotaenia</i> (Bleeker, 1857)	Planktivore	Major									+
<i>Pseudanthias tuka</i> (Herre & Montalban, 1927)	Planktivore	Major									+
<i>Variola albimarginata</i> Baissac, 1953	Piscivore	Target	+								
<i>Variola louti</i> (Forsskål, 1775)	Piscivore	Target									+
<b>Family Siganidae (Rabbitfishes)</b>											
<i>Siganus argenteus</i> (Quoy & Gaimard, 1825)	Herbivore	Target							+	+	
<i>Siganus canaliculatus</i> (Park, 1797)	Herbivore	Target				+	+				+
<i>Siganus orallines</i> (Valenciennes, 1835)	Herbivore	Target								+	+
<i>Siganus doliatus</i> Guérin-Méneville, 1829-38	Herbivore	Target		+		+					
<i>Siganus guttatus</i> (Bloch, 1787)	Herbivore	Target				+	+				
<i>Siganus javus</i> (Linnaeus, 1766)	Herbivore	Target									+
<i>Siganus puellus</i> (Schlegel, 1852)	Herbivore	Target							+		+
<i>Siganus punctatissimus</i> Fowler & Bean, 1929	Herbivore	Target								+	+
<i>Siganus punctatus</i> (Schneider & Forster, 1801)	Herbivore	Target				+				+	+
<i>Siganus spinus</i> (Linnaeus, 1758)	Herbivore	Target		+			+				+
<i>Siganus vermiculatus</i> (Valenciennes, 1835)	Herbivore	Target									+
<i>Siganus virgatus</i> (Valenciennes, 1835)	Herbivore	Target	+	+		+	+	+	+	+	+
<i>Siganus vulpinus</i> (Schlegel & Müller, 1845)	Herbivore	Target	+	+		+	+	+	+	+	+
<b>Family Sillaginidae (Whitings)</b>											
<i>Sillago sihama</i> (Forsskål, 1775)	Benthic Invertivore	Target									+
<b>Family Soleidae (Solefishes)</b>											
<i>Pardachirus pavoninus</i> (Lacepède, 1802)	Benthic Invertivore	Major									+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<b>Family Sphyraenidae (Barracudas)</b>											
<i>Sphyraena barracuda</i> (Edwards, 1771)	Piscivore	Target									+
<i>Sphyraena flavicauda</i> Rüppell, 1838	Piscivore	Target								+	
<i>Sphyraena obtusata</i> Cuvier, 1829	Piscivore	Target				+					+
<b>Family Synanceiidae (Stonefishes)</b>											
<i>Synanceia verrucosa</i> Bloch & Schneider, 1801		Major									+
<b>Family Syngnathidae (Seahorses and pipefishes)</b>											
<i>Doryrhamphus negrosensis</i> Herre, 1934	Benthic Invertivore	Major									+
<i>Dunckerocampus dactyliophorus</i> (Bleeker, 1853)	Benthic Invertivore	Major									+
<i>Hippocampus histrix</i> Kaup, 1856	Benthic Invertivore	Major									+
<i>Syngnathoides biaculeatus</i> (Bloch, 1785)	Benthic Invertivore	Major									+
<b>Family Synodontidae (Lizardfishes)</b>											
<i>Saurida gracilis</i> (Quoy & Gaimard, 1824)	Piscivore	Major				+	+	+	+		+
<i>Saurida tumbil</i> (Bloch, 1795)	Piscivore	Major									+
<i>Synodus dermatogenys</i> Fowler, 1912	Piscivore	Major					+	+			+
<i>Synodus variegatus</i> (Lacepède, 1803)	Piscivore	Major							+		+
<b>Family Teraponidae (Grunters or tigerperches)</b>											
<i>Pelates quadrilineatus</i> (Bloch, 1790)	Benthic Invertivore	Major									+
<b>Family Tetraodontidae (Pufferfishes)</b>											
<i>Arothron hispidus</i> (Linnaeus, 1758)	Benthic Invertivore	Major									+
<i>Arothron immaculatus</i> (Bloch & Schneider, 1801)	Omnivore	Major									+
<i>Arothron meleagris</i> (Anonymous, 1798)	Benthic Invertivore	Major								+	
<i>Arothron nigropunctatus</i> (Bloch & Schneider, 1801)	Benthic Invertivore	Major					+	+		+	+

<i>Family and species</i>	<i>Trophic group</i>	<i>Group</i>	<i>Aborlan</i>	<i>Bataraza</i>	<i>Brooke's Pt.</i>	<i>Narra</i>	<i>PPC</i>	<i>Roxas</i>	<i>Española</i>	<i>Taytay</i>	<i>WS Sea<sup>1</sup></i>
<i>Arothron reticularis</i> (Bloch & Schneider, 1801)	Benthic Invertivore	Major									+
<i>Arothron stellatus</i> (Anonymous, 1798)	Benthic Invertivore	Major									+
<i>Canthigaster papua</i> (Bleeker, 1848)	Benthic Invertivore	Major					+	+	+	+	
<i>Canthigaster valentini</i> (Bleeker, 1853)	Benthic Invertivore	Major									+
<i>Chelonodon patoca</i> (Hamilton, 1822)	Benthic Invertivore	Major									+
<b>Family Zanclidae (Moorish idol)</b>											
<i>Zanclus cornutus</i> (Linnaeus, 1758)	Benthic Invertivore	Major	+	+	+	+	+	+	+	+	+
<b>TOTAL</b>			<b>234</b>	<b>65</b>	<b>45</b>	<b>147</b>	<b>235</b>	<b>171</b>	<b>178</b>	<b>193</b>	<b>381</b>