

Ranked Risk Assessment for Bycatch in Multiple Fisheries: a Bioregional Risk Assessment Method

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Executive Summary

This report demonstrates a method to rapidly assess the cumulative risk to sustainability of bycatch species of multiple fisheries. The method draws on other techniques already published in scientific literature and adds a new cumulative ranked estimate of total catch across multiple fisheries. The Ranked Risk Assessment of Multiple Fisheries (RRAMF) allows one to rank bycatch species data within each fishery and cumulate the ranks across multiple fisheries incorporating the relative impact of each fishery. Another feature of this study is that it does not present a single risk result for each species, rather it shows a range of scores based on a variety of combinations of double-weighted parameters used in the risk assessment. The RRAMF method was tested on the West Coast and Gascoyne Coast Bioregions of Western Australia using fishery independent data for general teleost and elasmobranch bycatch; and fishery dependent data for threatened, endangered and protected species (TEPS) (which also included the South Coast Bioregion). Bycatch in this study is defined as any discards from fishing events, and does not include by-product or target species unless the individuals are under/over size or above statutory catch limits. It is important to note that no score was above 48% of the maximum possible score. All bycatch species received low to moderate risk scores using this method for the fisheries in these Bioregions. Those species that were most vulnerable to the cumulative impacts of fishing in these Bioregions were those species with sensitive biological life histories. That is, elasmobranchs and bottom dwelling brooders were ranked predominantly in the high end of the low-moderate risk category and into the moderate risk category. The RRAMF for the TEPS showed that while most species have high biological risk, the low interaction rates reported by fisheries maintained low to moderate risk categories for most species groups. Turtles and pinnipeds featured highly in the low-moderate to moderate risk categories, and Australian Sea Lions (*Neophoca cinera*) were the most vulnerable with a risk category ranging from moderate to moderate-high. This method uses transparent and repeatable methods that provide information for Ecosystem Based Fisheries Management (EBFM) at a Bioregional level. The method is limited by the availability of relevant and contemporary bycatch data and consequently the results generated require cautious interpretation.

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1.0 Introduction

Ever since Ecosystem Based Fishery Management (EBFM) concepts were first introduced in the late 1990s (Smith *et al.* 2007), commercial fisheries have been under pressure to implement scientific and management practices that reduce or mitigate ecosystem impacts. It is common knowledge that fisheries impact not only target species, but also by-product, bycatch (discards) and the environment (Hobday *et al.* in review). Interactions with protected species are cause for concern especially in cases where the loss of a few individuals could cause local extinction of a population (Goldsworthy & Page 2007).

A recent FAO publication on the discards of the world's fisheries implies that early estimates of global discards were not as high as originally thought, and that average annual discards from 1992 – 2001 were approximately 7.3 million tonnes (Kelleher 2005). In that report Kelleher (2005) also state that global fisheries have reduced the amount of discards by increased utilisation of catch, use of more selective fishing gears, introduction of regulations and guidelines to limit catch or area of catch, and improvements in enforcement of regulations (Kelleher 2005). Furthermore, Kelleher (2005) suggested that these global estimates could be greatly enhanced if discard studies were conducted at national and regional levels.

Ideally, fishery discard studies would be conducted in fisheries in a systematic manner that would enable the cumulative estimate of ecosystem impacts at a species level. Unfortunately, in many countries, there are insufficient resources to fund such studies. Hence many fisheries and fisheries managers have turned to risk assessment processes to determine highest-level risk areas to invest limited resources. Risk assessments in fisheries vary from qualitative consequence-likelihood analysis (Fletcher *et al.* 2002, Fletcher 2005) to determine which features of the fishery are under greatest threat; to semi-quantitative or quantitative species level ecological assessments such as Productivity-Sustainability Analysis (PSA) or Sustainability Assessment for Fishing Effects (SAFE), which investigate specific impacts on individual species and their sustainability through time (Stobutzki *et al.* 2001, Zhou & Griffiths 2008). Hobday *et al.* (in review) present the ERAEF (Ecological Risk Assessment for the Effects of Fishing) technique that comprises a hierarchical set of methods or tools, which have evolved from the methods, representing different levels of “quantification”, that are linked within a single framework (Hobday *et al.*, in review).

1.1 Rank Risk Assessment for Multiple Fisheries (RRAMF)

The purpose of this study is to design a risk assessment to investigate the cumulative risk to bycatch from multiple fisheries at a Bioregional level. The RRAMF is designed to overcome the differences in fisheries data collection methods that include use of a variety of measures, and variable observer coverage ranging from <1% to 20% of the actual fishery catch in West Australian fisheries. For example, bycatch species captured in trawl data are reported as number per hour, while in the demersal gillnet fishery bycatch data is reported as annual observed catch (number and weight). Bycatch species are also varied in their life history characteristics and their ecology, leading to variation in the distribution of the species captured. For example, trawl fisheries catch some species regularly in small numbers but others are caught in large numbers occasionally. With the limited amount of sampling of bycatch, it is difficult to discern the typical catch from the rare catch and hence over/under estimates may occur for some species in extrapolation of bycatch data to the whole fishery result. This can lead to large estimates of error surrounding the actual catch, as is evidenced in the FAO global assessments of bycatch (Kelleher

2005). To overcome these issues the RRAMF method compares the ranks of the relative amount of bycatch from each fishery and compares the ranks of the species catch within each fishery. This method provides a rapid and relatively inexpensive method to conduct a multi-fishery risk assessment. It also enables managers to prioritise which fisheries have the greatest impact and which species may require more biological and ecological study to understand the risks of multiple fisheries.

2.0 Definitions

Target species – The species or taxa that are the main focus of the fishing activity.

By-product – The species or taxa that are caught and kept as a result of fishing activities targeting other species or taxa. These species are not the focus of this study.

Discards – non-target or target species that are caught in fishing gear and landed on the boat, and are returned to the water, either because they have no value (e.g. there is no market or they are toxic), or because regulations (e.g. minimum legal size) prevent them from being kept.

Bycatch – includes discards as well as any organisms that are not landed but damaged or killed as a result of interactions with fishing gear. These are the focus of this study.

TEPS – Threatened, Endangered and Protected Species.

T & E – Teleost and Elasmobranch.

Bioregion – The *WA State of the Fisheries* report states: “Bioregion refers to a region defined by common oceanographic characteristics in its marine environment and by climate/rainfall characteristics in its inland system”.

ASL – Australian Sea Lion.

DoF – Department of Fisheries, Western Australia.

DEWHA – Department of Water, Heritage and the Arts [Now SEWPaC, Department of Sustainability, Environmental, Water, Populations and Communities].

GCB – Gascoyne Coast Bioregion. North from 27° S to West of Onslow at 114° 50' E.

WCB – West Coast Bioregion. Region south from 27° S to Black Point at 115° 30' E.

SCB – South Coast Bioregion. East from 115° 30' E to the WA border at 125° 00' E.

3.0 Methods

3.1 Data Collection

Bycatch data were searched for in DoF databases, the DoF library, University libraries, personal contact and the Internet. However, bycatch data for Western Australian State fisheries were only found within DoF databases and reports. One other study was found, but due to intellectual property issues this data from the Abrolhos Trawl fishery was not included in this study. Of the 26 fisheries (commercial and recreational) identified in the West Coast and Gascoyne Coast Bioregions, data was available for only 10 fisheries (Table 1). However, much of these data are from relatively old studies and many changes in gear and/or fishing effort, have occurred in the fisheries since then (Table 2). For example, the Shark Bay Prawn Fishery data was collected without Bycatch Reduction Devices (BRDs) such as Turtle Exclusion Devices (TEDs, now described as Grids) as they allow large marine animals to escape from the net when the net is actively fishing on the seabed, in combination with fish escape devices (FEDs) such as square mesh panels. Grids and FEDs are mandatory in the fishery now, so the bycatch data in this study does not reflect the commercial bycatch of the contemporary trawl fisher as reported in the *State of the Fisheries* as being lower. Another example is the Temperate Demersal Gillnet and Demersal Longline Fishery (TDGDLF) where the study was conducted between 1994 and 1999. However, subsequent changes to management have removed latent effort and restricted effort to *ca.* 70% of mean 1994/99 levels, (McAuley 2009), by transitioning to a more explicit hourly effort management system. Thus the bycatch should be less than in the data provided here.

Teleosts and Elasmobranchs (T & E) were the focus of this study due to the limited data available on invertebrates. The risk assessment developed here was a three-step process. Firstly, four initial variables were used to reduce the number of species to a manageable list. For the West Coast Bioregion (WCB), the list reduced from 326 to 50, and from 412 to 122 in the Gascoyne Coast Bioregion (GCB) (See Appendix 1 for total list). The second stage involved assignment of the biological and fishery impact parameters to the sub-set of species (see WCB: Table 7, GCB: Table 8) and the weighting of these parameters. The overall risk assessment (see WCB: Table 9, GCB: Table 10) was calculated using the formula described in Section 3.8 to present the most vulnerable species. The third step was an arbitrary notation for each of the species based on the latest scientific and fisheries knowledge of that species. This list focussed on only the top twenty ranked species for each Bioregion. This notation provides advice on a species risk assessment relative to other species (see WCB: Table 11, GCB: Table 12).

3.2 Cumulative Bycatch

The original goal of this project was to determine a cumulative estimate of the bycatch species in the West Coast and Gascoyne Coast Bioregions. However this became impractical for three reasons:

- The lack of data across the fisheries meant a total cumulative estimate could not be made;
- Scaling up the results of the data collected from the minimal sampling regimes to estimates for the entire fishery was grossly inaccurate and lacked common sense; and
- The data were collected in a variety of units and effort, and comparison across the fisheries would be complex.

Instead, to allow an estimate of bycatch across the Bioregions to be determined, a ranking of relative abundance was used for the existing data, which also allows the development of the risk assessment process. For each of the datasets the relative abundance of each species in the bycatch was ranked from 1 – 5. Those species that were rare in the bycatch were given a rank of 1 and those that were highly abundant were given a rank of 5. Accumulating these ranked scores would still not be representative of the combined fishery catch because one cannot compare the bycatch abundance rank = 1 in the Gascoyne charter fishery to the bycatch abundance rank = 1 in the Shark Bay Prawn Trawl. There are different levels of effort and catch in these two fisheries, as there is for all fisheries. Therefore, the fisheries had to be weighted according to their comparative catch abundance. Scaled-up estimates demonstrated the relative impact of fisheries on the bycatch and were used for weighting fisheries (Table 3). That is, the weighting was based on the orders of magnitude differences between the scaled-up data for the fisheries. For example when the Shark Bay Prawn Trawl data was scaled-up from the bycatch study in 2002/03 to the whole fishery based on present effort, the most abundant species that was caught numbered in the tens of millions so this fishery received a weighting of 5. The rest of the fisheries were weighted based on the order of magnitude difference from this point (see “Weight” in Table 3).

3.3 Reduction of Species List

Typical species level risk assessment processes use fishery and biological information to identify the most at risk species. Unfortunately, biological information for bycatch species is limited. Due to the limitations of time and budget, a reduction exercise was implemented to the long list of bycatch species prior to the addition of biological information. The reduction exercise used four inclusion/exclusion parameters to minimise the list to a more manageable subset. These were:

1. Is the species conservation listed? If yes, it was included.
2. Level of endemism (Scale 1 – 5; see distribution in Table 4); Included if endemic to the Bioregion (scale = 5). This is measuring the species ability to recruit from outside an impacted area should the species be depleted.
3. High relative abundance in catches: arbitrary first cut at 50% (≥ 20 relative abundance weighted rank)
4. Are they a primary target species in another fishery? If yes, it was included.

Note that this exercise assumes that species have no/low risk if they are excluded due to the four categories. For bycatch species, this may be problematic because of our lack of knowledge of many of the species, in terms of their range and susceptibility (life history characteristics in relation to minor fishing pressure) and rare species are likely to be excluded but they may be rare due to their vulnerability status. This limitation is discussed later in this report but it must be noted that this method was developed to be a rapid assessment from limited data.

3.4 Life History Characteristics Variables

Information on the species ranges and their life history characteristics were sourced from Fishbase, Sealife Base, GBIF, OBIS and the scientific literature. For species where no information existed, the most conservative characteristics of a similar sized species within the same genus or family was used. However if no similar species existed, then the highest rank was given for that characteristic. This occurred for seven species in the Gascoyne Coast Bioregion under the ‘Age at first reproduction’

parameter. The life history characteristics (Table 4) chosen were limited to those that were available for the majority of species. This provided some level of confidence in the strength of the risk analysis compared with selecting a larger range of descriptive variables and placing maximum ranks to a large majority of species and potentially overestimating their overall risk.

The variables allocated were:

- Age at first reproduction – The longer it takes for a bycatch species to reproduce the greater the chance that it will be caught before it is able to add to the species' gene pool and improve the species possible resilience. This follows the assumption of probability of breeding used by Stubutzki *et al.* (2001).
- Depth rank – This variable reflects the difference among species sensitivity to pressure changes. Some species of fish are known to be susceptible to barotrauma (e.g. tuskfish) while others are less so (e.g. some small serranids) or not at all (e.g. elasmobranchs). The depth that these species are caught also reflects a level of stress, which may increase post release mortality. All elasmobranch were given a score of 2 for this parameter, except the Grey Nurse Shark, which was scored 3 because it actually uses air to maintain its buoyancy (Compagno 1984). Depth rank was applied to species based on the maximum depth they would be caught in the fisheries included in this analysis, not their maximum known depth range.
- Maximum length – Larger species tend to live longer and have longer generation times than smaller species, which slows down their capacity to recover from population reductions (Roberts & Hawkins 1999).
- Mode of Reproduction – Live-bearers, egg producers and brooders generally produce less young than broadcast spawners. Therefore broadcast spawners may have a greater capacity to recover quicker (Stubutzki *et al.* 2001). This variable provides an idea of relative fecundity and amount of care contributed by the adults to nurture their young.

3.5 Fishery Impact Profile Variables

Five variables were also chosen to describe the fishery impact profile (Table 4) ;

- Management – this parameter describes the level that stocks of this species are managed based on biological and ecological data. Species targeted by fisheries are usually the only species that receive this type of attention. However, some species that are caught in addition to the target species are managed by default. For example, the three indicator target species of the West Coast Demersal Scalefish Fishery are the Pink snapper (*Pagrus auratus*), West Australian Dhufish (*Glaucosoma herbraicum*) and the Baldchin groper (*Choerodon rubescens*). These three species have been the subject of fishery, biological, ecological and genetic studies to increase understanding of their stock status, and receive a rank of 1 under the management parameter. These species are also used as a proxy for the status of the entire suite of inshore demersal species caught in that fishery (Fairclough *et al.* 2008). Thus, the other inshore demersal species in the fishery are managed by default, despite not necessarily having extensive biological, ecological or genetic information to directly manage that particular species. Default managed species receive a ranking of 3. Three is the maximum scores in this parameter, as all fisheries are managed to some extent and therefore all species are managed by default.
- Sum of Ranks- This parameter is the sum of all the weighted ranks assigned to a species in each of the fisheries. This is explained in full detail in the section on cumulative bycatch (above).

- Target of another fishery - If a fishery targets a species, there should be a greater impact on the species as a whole (not contained in the bycatch analysis), than for those species that are only caught as bycatch. The species included in this parameter are those that are primary targets of fisheries as reported in the *State of the Fisheries Reports* (see www.fish.wa.gov.au/docs/sof/index.php).
- Conservation Listing - Only conservation-listed species in the IUCN Red list and the Environmental Protection & Biodiversity Conservation (EPBC) Act 1999 were considered. The status for each species in this study is based on the West Australian level of classification. That is, Grey Nurse Sharks are classified as critically endangered in NSW but in WA they are listed at the lower status of near threatened. So this species is ranked as a 2 rather than a 5 as it would be in NSW. Where there were differences between IUCN and EPBC assessments, the most recent assessment was used.
- Mortality- Mortality was estimated for each taxon based on current knowledge in the scientific literature. Mortality from the different fishing gears affects each species differently. Mortality data is lacking for most species, so broad generalisations about taxa were made based on the available literature and the known methods of each fishery. As an example, there have been no studies into the effects of the WA Rock Lobster Fishery on the mortality of teleost bycatch. However, the pots are pulled to the surface rapidly from an average depth of 20 m. Any teleosts in the pot at the time will potentially be subject to barotrauma injuries which can lead to mortality. Mortality was calculated as an average rank across all fisheries that impact that species within a Bioregion. For example Port Jackson shark are caught in all fisheries in the West Coast Bioregion assessment and have minimal mortality except in the demersal gillnet fisheries. Overall mortality were calculated as Gillnet: 40-60% + Trawl:0-20% + Recreational:0-20% + Charter fishers:0-20% + Pot:0-20% divided by the number of fisheries. Thus, according to Table 4 the mortality ranks would be $(3 + 1 + 1 + 1 + 1)/5 = 7/5 = 1.4$ mortality rank.

3.6 Threatened, Endangered and Protected Species Parameters

Different descriptive parameters were used in the TEPS risk assessment (Table 5). As TEPS are not 'targeted by any fisheries', this parameter was replaced by 'other impacts'. 'Maximum length' was replaced by 'maximum age' and as the 'Depth' parameter was a measure of barotrauma in the swim bladder of teleosts, it was replaced by the biological variable 'number of offspring'. Management was removed because this parameter is constant for all species that are conservation listed. The data used in both the risk assessments were also different; the T & E data is fishery independent and the TEPS data is fishery dependent. Descriptions of the new parameters are described below.

- Other Impacts – These may be anthropogenic or climate-induced. For example coastal housing and industry development may reduce turtle nesting sites. Introduction of pests to isolated islands where colonies of birds or seals exist may reduce colony size. Dredging of coastal environments may reduce sea grass habitats, decreasing turtle and dugong feeding areas. These are just three examples of many 'other impacts' on TEPS.
- Maximum age – Similar to maximum length, is a proxy of the species ability to recover after population disturbance. Longer lived species generally have longer generation times (Roberts & Hawkins 1999).
- Number of Offspring –Species with low numbers of offspring are expected to have reduced ability of recovering from disturbance.

3.7 Weighting of Parameters

In risk assessment it is common practice to weight parameters used to characterise a species' biological and fishery impact profiles depending on which is/are considered more important. The weighting of parameters will always depend on the perspective of the person or group conducting the weighting process. Therefore, this study presents the range of different perspectives, including no weighting and the average of all the weighting perspectives, to determine if some vulnerable species are identified regardless of parameter weighting. The weighted variable in each case was doubled. Some parameters categorise similar characteristics so they were double weighted together. For example;

- Reproduction - 'mode of reproduction' and 'age of first reproduction';
- Management - 'management' and 'target of another fishery'.

3.8 Overall Risk Assessment Calculation

The overall risk assessment score was derived by the sum of each of the scores multiplied by the associated parameter weighting and then divided by the sum of all the parameter weights. The equation is represented by:

$$V_i = \frac{\sum_{j=1}^n w_j R_i}{\sum_{j=1}^n w_j}$$

where V_i is the vulnerability score for species i , w_j is the weighting for criterion j , R_i is the parameter rank of species i for criterion j , and n is the number of criteria on each axis (See Stobutzki *et al.* 2001).

The maximum possible score for the TEPS assessment was 25 because all parameters on the 'fishery impact profile' and the 'life history profile' had a maximum of 5. The maximum possible score for the T & E assessment was less due to the parameter "Management" on the 'fishery impact profile' having a maximum score of 3. Thus the maximum score on the 'fishery impact profile' and the 'life history profile' was 4.6 and 5, respectively, providing a maximum possible score of 23. The maximum score was divided into 5 risk category scores (Low, Low-moderate, Moderate, Moderate-High, High) (Table 6).

4.0 Results & Discussion

4.1 Teleost & Elasmobranch (T & E) Risk Assessment

It is important to observe the relative effect of the different combinations of the weightings on the final risk assessments. Two common methods used to weight parameters include arbitrary nomination by a group of selected experts from a range of user groups in a workshop style process, or the Analytic Hierarchy Process (AHP), which uses a group of experts to independently rank each parameter against the other parameters. The relative weighting is decided using the combined ranking scores (for more detail see Forman & Gass 2001, McClanahan *et al.* 2008). This study presents the full range of possible combinations of weighting so the reader may decide which is more relevant to their situation. Interestingly, at least 4 of the top 5 species are the same in all combinations of the weighted parameters for both Bioregions (WCB: Table 9, GCB: Table 10) and at least 70% of the top 30 were the same species (WCB: Table 9, GCB: Table 10). Therefore, at least for this method, one might deduce that weighting of parameters is not essential.

The highest possible risk score for the teleost and elasmobranch assessment was 23. No species from either Bioregion using every possible weighting combination scored higher than ~45% of the maximum risk assessment score. It is important to note that regardless of individual species rankings in the assessment, all species received a low to low-moderate risk ranking (Table 9, 10). The species with the highest score was *Heterodontus portusjacksoni* in the West Coast Bioregion with a score 10.36 using double weighting on the Reproductive and Fishing parameters. The average score across all weightings for *H. portusjacksoni* was 8.3, and 8.4 with no weighting (Table 9). This species features relatively highly in the risk assessment because it has a high ranking for the reproductive characteristics and it is caught in moderate to high abundances in all fishery bycatch data used in this assessment. However, *H. portusjacksoni* appears to be very resilient to fishing impacts based on its apparently high natural abundance, resilient life history parameters (relative to other elasmobranchs) and low capture mortality rates. The Gummy Shark was placed second in the assessment. However, species identification of the genus *Mustelus* is quite difficult and this result may be the accumulation of three species of *Mustelus*. One of the major limitations of bycatch monitoring is the inability to discern different species due to lack of experience of observers or taxonomic issues, even for larger species like the gummy sharks. This always creates some level of uncertainty in the data, but must be accepted, as training resources are limited.

In the Gascoyne Coast Bioregion, *Taeniura meyeni* (black-blotched sting-ray) and *Rhyncobatus* spp. (white spot shovelnose ray) had the highest average score (8.59), non-weighted score (8.5) and the highest overall score with the parameters 'size and management' (10.06). As for the Gummy Shark, the *Rhyncobatus* spp. result is the accumulation of a number of species and therefore is not the most vulnerable in this Bioregion. The scores for these species vary between low-moderate to moderate depending on which of the parameters were double weighted (Table 10). *T. meyeni* is listed as vulnerable under IUCN conservation status for Chondrichthyans (Cavanagh *et al.* 2003). However this species is not reported in the TEPS assessment as species level data for stingrays were not available.

To test the validity of the T & E risk assessment, a species that is presumed to be vulnerable to fisheries impacts was inserted into the T & E matrix. Although not a member of the teleosts or elasmobranch groups, the species chosen was the Australian Sea Lion (*Neophoca cinerea*)

(ASL). This species grows to a large size, reproduces slowly and at asynchronous times, with a small number of offspring. Although the species ranges from South Australia to Central Western Australia, there is minimal genetic exchange between colonies (Campbell *et al.* 2008). ASLs are air-breathing mammals and are therefore highly susceptible to fishing mortality due to drowning. Using no weighting of the parameters the risk assessment score was 14.25. This score is in the moderate-high risk category in the T & E assessment and is higher than all other species investigated in this study. ASL interactions are reportedly very low (2 in the last 4 years: log book records) in Western Australia and received a rank of 1 (very rare capture), which reduces the risk score. Whether this amount of interaction is socially acceptable requires further study.

Elasmobranchs featured highly in this risk assessment. This group of species have been assessed separately from teleosts in previous assessments due to their biological susceptibility to impacts of fishing (Stobutzki *et al.*, 2001; Salini *et al.*, 2007). They were included in this risk assessment to determine their relative placement to the teleosts. As expected, many elasmobranchs had higher scores than most teleosts due to their life history characteristics rather than the impact of fisheries (Table 9). Elasmobranchs hold ten of the top twenty places in the WCB (Table 9) and nine of the top twenty in the GCB (Table 10). Life history characteristics that make elasmobranchs more susceptible in risk assessment methods include large maximum length and reproductive characteristics such as small numbers of live young relative to spawning of most teleosts (WCB: Table 7, GCB: Table 8). These characteristics make them inherently vulnerable to fishing, with some fisheries having impacted some species of shark. Mortality caused by incidental fishery interactions, while low, may hinder management interventions in shark fisheries to replenish these stocks.

Most elasmobranchs have relatively low capture rates as by-catch within West Australian fisheries and due to mitigation devices such as bycatch reduction devices (BRDs) in non-selective trawl fisheries in recent years, the catch of large animals, including elasmobranchs, has been reduced by 95-100% from the levels reported in the Exmouth and Shark Bay Prawn Trawl fisheries in this study (Kangas & Thomson 2004). However, fishery interactions with juveniles or smaller shark and ray species are not necessarily being mitigated by these devices and further studies are required to minimise this impact (Stobutzki *et al.* 2002, Kangas & Thomson 2004). Furthermore, all sharks and rays were commercially protected in November 2006, which prohibited retention of elasmobranchs bycatch in all but three fisheries in the GCB and WCB (with the exception of the the two demersal gillnet and demersal longline fisheries and the Marine Aquarium Fish Fishery).

A number of TEPS are recorded in the fishery independent data and included in the T & E assessment but do not accumulate high-risk scores. In the GCB the two rays, *Taeniura meyeni* and *Dasyatis leylandi*, are ranked 1st and 8th with scores of 8.59 and 7.02, respectively (Table 10). In the West Coast Bioregion there are two sharks (*Carcharias taurus* and *Carcharodon carcharias*) and one sea horse in the top twenty species. However all three species are considered low-moderate risk with scores less than 7.03 (Table 9). Most of the TEPS in this assessment are caught in relatively low numbers. Whether this is because there are few individuals, or fishers avoid them by behaviour or mitigation devices, is yet to be determined. Monthly (Catch and effort statistics) and daily logbook reporting forms require fishers to report all interactions with TEPS, which is common practice in many fisheries around the world. However some observer programs have found discrepancies between estimated catch rates of some TEPS and the reported catch rate using these fishery-dependent reporting forms (National Seal Strategy Group 2007). Only one study comparing TEPS interactions reported by skippers and observers

has been conducted in commercial fisheries in Western Australia. The study in the Pilbara Trawl Fishery found no general pattern of under-reporting (Stephenson *et al.* 2008), in fact the skipper reported slightly more interactions than the observer for six of nine species of TEPS.

4.2 Threatened, Endangered and Protected Species (TEPS) Risk Assessment

It is important to note that the risk assessment scores for the T & E assessment are not directly comparable to the risk assessment scores for the TEPS, as different parameters and data sets were used. Interestingly, even with different data sets and different risk assessment parameters, the risk categories for species that exist in both risk assessments were similar (*C. carcharias* & *C. Taurus* were low-moderate in both). These similarities may be further evidence of the consistency of the method used in this study. No species level data existed in the syngnathid group of the TEPS assessment so direct comparison is not viable. However, syngnathids were ranked as low in the TEPS assessment and the highest ranked syngnathid was low-moderate in the T & E assessment.

4.3 Why do most TEPS have low to moderate scores?

As is expected, the biological scores for all the TEPS were relatively high, an important contributor to the reason for their status as conservation listed species. However, the fishery impact profile is very low. This is driven by low reported catch rates, relatively low mortality rates (except for pinnipeds and dolphins in the current data) and very wide distributions (GCB: Table 13, WCB: Table 14, SCB: Table 15). It is important to note that fishing is not the only impact on many protected species. Other impacts, such as human development or climate related changes, may have significantly greater impact on many TEPS. Australian Sea Lion (ASL) are the one exception to the low to moderate scores (GCB: Table 16, WCB: Table 17, SCB: Table 18). ASL scores and ranks are moderate to moderate-high (Table 18) because it has a 100% mortality in reported interactions (despite the low observed catch, n=1), and although it has a relatively wide distribution, there is a high level of philopatry and genetic subdivision, especially for female ASL throughout their distribution (Campbell *et al.* 2008). There are also several impacts other than fishing, including expanding human populations, industrial development and eco-tourism (National Seal Strategy Group 2007). These factors also impact turtles as is reflected in the risk assessment but turtles do not have a similar ranking to the ASL (GCB: Table 19, WCB: Table 20, SCB: Table 21). Thus the main reason for the increased score for ASL is high mortality rate post fishery-interaction and the potential impact of the mortality on the individual populations (i.e. high score for distribution reflecting high genetic endemism) regardless of the rare interaction rates and the existence of a single record of interaction in a commercial fishery in Western Australia.

4.4 Assessment of the collected bycatch data

The relative amount of bycatch and the sampling methods of the fisheries in each Bioregion create a level of bias in the final list based on a species' life history characteristics. For example, in the GCB, the list reflects those species that have life history characteristics that are susceptible to trawling. Those species with the highest vulnerability are bottom-dwelling brooders (e.g. catfish), elasmobranchs (e.g. rays) or schooling juvenile species that recruit to low relief sandy areas (*Lethrinus punctulatus*: Blue-spotted Emperor). The majority of the remaining species

are small-bodied, poor swimmers that inhabit sandy bottoms. In the WCB most species reflect the impact of gillnets and wet-lining techniques. That is, they are mostly large bodied teleosts and elasmobranchs. This bias does not allow true representation of the Bioregion because not all fisheries were represented equally, some fisheries have minimal data, and others none at all. This is a limitation of this study that requires attention. For example, the data for the South West Trawl are nearly 20 years old and the Abrolhos scallop trawling bycatch data are unavailable (due to confidentiality) for this analysis although teleost bycatch in this scallop fishery is minimal and since 2005, large animal capture is minimised because of grids (FEDs) in nets. To fully investigate the cumulative impacts of multiple fisheries within a Bioregion a study must have data from all the fisheries to be confident that the study represents the risk to all species in the Bioregion.

4.5 Assessment of method

A general limitation for all risk assessments using catch data is the inability to discern catch due to large abundances or catch because the species is vulnerable to the gear; particularly with bycatch species, of which we have very little ecological and biological understanding. The RRAMF method automatically assumes species that are a) not caught in high numbers, b) not a TEPS, c) not a target of another fishery, and d) are widely distributed, are not considered high priority in regards to risk from the combined effort of WA's fishing fleets, including recreational and charter fishers. This assumption may not apply to some species, but when the goal is to prioritise and focus on the cumulative impact of fisheries species, these assumptions are required. This method produced similar results as depletion experiments investigating vulnerability (to trawl gear) of fish species in GCB fisheries, which demonstrated that eight species had depletion rates of >50% which were termed 'vulnerable' or more 'catchable' (Kangas *et al.* 2007). All eight species made the GCB final list in this study via the risk assessment process, indicating that this method produces similar results. Transferability and repeatability are the main goals of designing a risk assessment (Astles *et al.* 2006), which was demonstrated by the similar risk scores for TEPS when the methods were transferred from the fishery independent data to the fishery dependent TEPS data. Repeatability in this study was aided by the clear documentation of decision rules, and the identification of all possible weighting scenarios presented to the public, minimising the need for collective expert opinion in the risk assessment design as seen in previous studies (Fletcher *et al.* 2002, Fletcher *et al.* 2005).

The results presented here are limited by the quality, amount and availability of recent data relative to the number of fisheries State-wide. The results represented in the T & E risk assessment for some of the fisheries represent old information that is not relevant to the current situation due to changes in input and output measures introduced since the data was collected. This initial risk assessment is a demonstration of the methods, but the results should be interpreted with caution until more recent data is available to be analysed. The impact of future changes in the fisheries will need to be assessed at regular intervals. One fishery that has potential for increased pressure on fish stocks is the South West Trawl. There is a large amount of latent effort (both in number of participating boats and the spatial extent of their fishing activities) in this fishery and if activated, there will be greater pressure on all levels of catch in that fishery. Overall results in this study suggest that bycatch is low to moderate, and most fisheries in this study have either had their effort restricted or have introduced mitigation devices since the data was collected, which are likely to reduce the risk to many of the species in this study.

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Table 1. List of fisheries in the West Coast and Gascoyne Coast Bioregions. Dark shaded areas are fisheries with bycatch data other than TEPS data from Monthly or daily log books. R = Research studies; VL = Voluntary logbooks; CL = Compulsory logbooks; N = no bycatch data available.

Bioregion	Fishery	Year(s) data collected	Method by which bycatch data was collected	Current industry method of reporting TEPS interactions to the Department of Fisheries
Gascoyne Coast	Shark Bay Prawn Managed Fishery	02-03	R	Shot
	Recreational fishing	05-09	VL	-
	Exmouth Prawn Managed Fishery	04	R	Shot
	Gascoyne Charter Fishery	02-08	CL	Daily
	Shark Bay Snapper Managed fishery	03-09	R	Daily
	Shark Bay Scallop Managed Fishery	N	-	Shot
	Shark Bay Crab (Including other northern crabs)	N	-	Monthly
	Gascoyne open access inshore net fishery	N	-	Monthly
	Exmouth Gulf Beach Seine	N	-	Daily
	Mackerel Fishery	N	-	Monthly
West Coast	Shark Bay Beach Seine & Mesh Net Managed Fishery			
	Demersal Gillnet and Longline Fishery (incl. Sth Coast)	94-99	R	Daily
	Recreational Fishing	05-09	VL	-
	West Coast Rock Lobster Fishery	06-08	R	Monthly
	South West Trawl	91-92	R	Shot
	West Coast Charter Fishery	02-08	CL	Daily
	Abrolhos Islands and MidWest Trawl Managed Fishery	Unavail.	-	Shot
	Roe's Abalone Fishery	N	-	Monthly
	West Coast Deep Sea Crab	N	-	Monthly
	West Coast Demersal Scalefish Fishery	N	-	Daily
	West Coast Purse Seine Managed Fishery	N	-	Monthly
	West Coast Beach Bait Managed Fishery (SW beach seine also)	N	-	Monthly
	West Coast Open Access Inshore Net Fishery	N	-	Monthly
	West Coast Estuarine (Interim) Managed Fishery	N	-	Monthly
	South West Coast Salmon Managed Fishery	N	-	Monthly
	South West Beach Seine Fishery	N	-	Monthly
	Warnbro Sound Crab	N	-	Monthly
Cockburn Sound Crab	N	-	Monthly	
Cockburn Sound Fish and Net	N	-	Monthly	
Cockburn Sound Line and Pot	N	-	Monthly	

Table 2. List of the fisheries with bycatch data included in this study showing the year when the data was collected and the changes to the fishery during the period of data collection and since those data were collected. Year: the year/s data was collected.

Bioregion	Fishery	Year(s)	Changes since data collected
Gascoyne Coast	Shark Bay Prawn Managed Fishery	02-03	Turtle exclusion devices introduced in 2002 Square mesh panels (fish escape devices) introduced in 2005. Prawn trawl bycatch of juvenile snapper in in Denham Sound shown to account for 2% increase in annual mortality overall (Moran & Kangas 2003) Hoppers progressively introduced since 2007. Biodiversity study (FRDC 2002/038) found no difference between trawled and non- trawled areas
	Shark Bay Scallop Managed Fishery	02-03	Turtle exclusion devices introduced in 2002. Square mesh cod-end trials conducted in 2009/10 (FRDC 2007/051)
	Recreational fishing	05-09	Species-specific bag limits (e.g., 4 spangled emperor) – 2006 Changes to species-specific minimum legal lengths – 2006 Rezoning of Ningaloo Marine Park in Sep 2005 Recreational Fishing from Boat licence Mar 2010
	Exmouth Prawn Managed Fishery	04	Turtle exclusion devices introduced in 2002 Square mesh panels (fish escape devices) introduced in 2005 Hoppers progressively introduced since 2002 with all boats having hoppers by 2007. Testing the benefits of using square mesh cod-ends 2009/10 Biodiversity study (FRDC 2002/038) found no difference between trawled and non- trawled areas
	Gascoyne Charter Fishery	02-08	Species-specific bag limits (e.g., 4 spangled emperor) - 2006 Changes to species-specific minimum legal sizes – 2006 Rezoning of Ningaloo Marine Park in Sep 2005 Recreational Fishing from Boat licence Mar 2010 New permits required to operate in the Ningaloo Marine Park
	Shark Bay Snapper Managed Fishery (will become Gascoyne Demersal Scalefish Fishery 1st Sept 2010)	03-09	Prohibition on wetlining in the SBSF management zone (May 2004) Snapper TACC reduced by 40% in 2004 and 20% in 2007 30 day limit on use of SBSF entitlement catch quota (100 units) – 2009

Table 2. cont			
Bioregion	Fishery	Year(s)	Changes since data collected
West Coast	Demersal Gillnet and Longline Fishery (incl. South Coast)	94-99	30% reduction in effort capacity (35%-48% reduction in active effort) 37% reduction in active DGDLF vessels Annual 2 month closure between 118° E longitude and 26° 30' S latitude Closure of fishery in Perth Metropolitan region in November 2007. Commercial protection of sharks and rays throughout WA (some exceptions) Ban on metal snoods outside the Northern Shark and Mackerel Fisheries
	Recreational fishing	05-09	Reductions in species-specific bag limits and boat limits (e.g. West Australian Dhufish now one per person) and mixed-daily bag limits per angler Two month seasonal closure for high risk species (introduced 2009/10) Increase in minimum legal size for pink snapper south of 31°S-115°30E to 500 mm as at January 2010 Introduction of a fishing from boat licence 2010
	West Coast Rock Lobster Fishery	06-08	Catch reduced by approximately 70% from 2008 to 2010.
	West Coast Charter Fishery	02-08	Restrictions to bag and boat limits – see Recreational above
	South West Trawl	91-92	Low number of boats operating in recent years. Still potential to activate latent effort.

Table 3. Bycatch data collected from commercial, charter and recreational fisheries in the Gascoyne Coast and West Coast Bioregions showing units of collection, methods of collection, amount of observer coverage, years of the study, the range of the catches per unit, the ranks of the species catches and weighting for the fisheries. Recording technique describes the way in which data was collected. Research: fishery independent data collected by scientists for a particular purpose; Observer: fishery independent data collected by people on vessel to identify catch amounts and types; Logbooks: fishery dependent data provided by fishers.

Fishery	Gascoyne Coast Bioregion			Both Bioregions		West Coast Bioregion		
	Shark Bay Prawn	Shark Bay Snapper	Exmouth Gulf Prawn	Charter	Recreational	Demersal Gillnet and Longline	South West Trawl	West Coast Rock Lobster
Unit	#/nm	#/hour	# /nm	Total Number	Total reported catch	# Captured	# Captured from report	#/1000 pot lifts
Recording technique	Scientific Research	Observer	Scientific Research	Compulsory Logbooks	Voluntary Logbooks	Observer	Scientific Research	Observer
Coverage	<12 x 10 min. trawls at 26 sites over 02/03	5-58hrs/yr	<12 x 10 min. trawls at 26 sites over 2004	Annual	420 Logbooks	2-20% depending on sub-region	36 x 15 min trawls	1.2%
Years of study	2002-2003	2003 - 2009	2004	2002/3 –2008/9	2005 - 2009	1994 - 1999	1991 - 1992	2006/7 – 2007/8
Range of catch	0.01 - 100	0.07 – 1.5	0 - 307	0.1 - 5210	0.2 - 801	<1 - 2300	0 - 5500	0.03 – 2.22
Weighting	5	2	4	1	3	2	3	2
Rank								
1	0.01 – 0.1	0.07 – 0.1	0.1 – 1	0.1 - 1	0.2 – 1	0.1 - 1	0.1 - 1	0.03 – 0.05
2	0.11 – 1.0	0.11 – 0.2	1.1 – 10	1.1 - 10	1.1 – 50	1.1 - 10	1.1 - 10	0.051 – 0.1
3	1.1 - 10	0.21 – 0.5	10.1 – 50	10.1 – 100	50.1 – 200	10.1 – 100	10.1 – 100	0.11 – 0.5
4	10.1 - 50	0.51 – 1	50.1 – 100	101 – 1000	200.1 – 400	101 – 1000	101 – 1000	0.51 – 1
5	>50	>1	>100	>1000	>400	>1000	>1000	>1

Table 4. Bycatch parameters and relative ranks used to determine bycatch risk for Teleost and Elasmobranchs in the Gascoyne and West Coast Bioregions.

	Fishery Impact Parameters					Biological Parameters				
	Management	Sum of catch ranks	Target of another fishery	Conservation Listing	Distribution	Mortality %	Age at 1 st Reproduction (yrs)	Depth (m) rank	Maximum Length (cm)	Mode of reproduction
1	Species is managed based on catch trends and biological studies.	1 - 10	Rank relative to the number of fisheries targeting the species. Eg. 3 fisheries	Least Concern	>1 Ocean Basin	0 - 20	<2	1 - 10	1 - 20	Broadcast Spawn
2	na	>10 - 20	targeting a species gets a rank of 4, and no fisheries gets a rank of 1.	Near Threatened	Within ocean basin	21 - 40	na	>10 - 20	>20 - 50	na
3	Species is managed by proxy because of an indicator species from rank 1	>20 - 30		Vulnerable	Australia and NZ	41 - 60	2 - 4	>20 - 100 & most elasmobranchs	>50 - 100	Brood
4	na	>30 - 40		Endangered	Only recorded in WA. (>1 Bioregion)	61 - 80	na	>100 - 200	>100 - 200	na
5	Receiving no management	>40		Critically Endangered	Only recorded in one WA Bioregion.	81 - 100	>4	>200	>200	Live/eggs with no parental care

Table 5. Bycatch parameters and relative ranks used to determine bycatch risk for Threatened, Endangered and Protected Species in the Gascoyne, West and South Coast Bioregions.

	Fishery Impact Parameters				Biological Parameters				
	Sum of catch ranks	Other Impacts	Conservation Listing	Distribution	Mortality %	Age at 1 st Reproduction (yrs)	Depth (m) rank	Maximum Length (cm)	Mode of reproduction
1	0.5 - 1	No other impacts	Least Concern	>1 Ocean Basin	0 - 20	<2	>=50	1	Broadcast Spawn
2	>1 - 2	NA	Near Threatened	Within ocean basin	21 - 40		10 - 50	>1 - 10	Brood
3	>2 - 5	Some impacts that affect only one stage of the life cycle e.g seabird nests disturbed by rodents	Vulnerable	Australia and NZ	41 - 60	2 - 4	>1 - 10	>10 - 20	Live/egg with adult care
4	>5 - 10	NA	Endangered	Only recorded in WA. (>1 Bioregion)	61 - 80		>0.5 - 1	>20 - 50	Live
5	>10	Numerous impacts affecting all life-stages eg. Turtles-adults are affected by boat strikes, and their ability to nest due to coastal development.	Critically Endangered	Only recorded in one WA Bioregion.	81 - 100	>4	<0.5	>50	Laying several eggs with no adult care

Table 6. Division of scores showing colour ratings for risk categories for ‘threatened, endangered and protected species’ and ‘teleost and elasmobranch’ assessments.

	Low	Low - Moderate	Moderate	Moderate - High	High
Protected Species	1 to 5	5.1 to 10	10.1 to 15	15.1 to 20	20.1 to 25
Teleost and Elasmobranch	1 to 4.5	>4.5 to 9	>9 to 13.5	>13.5 to 18	>18 to 23

Table 7. Rankings for the biological profile and the Fishery Impact Profile for each of the teleost and elasmobranch species identified after the first cut in the West Coast Bioregion. Dist.: Distribution; Cons. List: Conservation Listing.

Family	Common name	Species name	Biological Profile			Fishery Impact profile						
			Depth rank	Age at 1st repro.	Max Length repro.	Mode of repro.	Dist.	Manage	Sum of Ranks	Target of another fishery	Cons. list	Mortality
Aracaniidae	Boxfish	<i>Anoplocapros robustus</i>	3	3	2	1	2	3	3	1	1	3.5
Arripidae	Herring, Australian	<i>Arripis georgianus</i>	2	3	2	1	3	3	2	3	1	2.333333
Arripidae	Salmon, Australian	<i>Arripis truttaceus</i>	4	3	3	1	3	3	1	2	1	1
Berycidae	Snapper, Red (Nannygai)	<i>Centroberyx gerrardi</i>	5	5	3	1	3	3	1	2	1	2
Carangidae	Sand trevally	<i>Pseudocaranx wrighti</i>	3	3	2	1	3	3	3	1	1	2.333333
Carangidae	Scad, Yellowtail	<i>Trachurus novaezelandiae</i>	4	1	3	1	1	3	2	3	1	3.5
Carcharhinidae	Shark, Black tip	<i>Carcharhinus spp.</i>	2	5	5	5	1	3	1	1	2	1
Carcharhinidae	Shark, Sandbar	<i>Carcharhinus plumbeus</i>	2	5	5	5	1	1	1	2	3	1
Carcharhinidae	Shark, Tiger	<i>Galeocerdo cuvier</i>	2	5	5	5	1	3	1	1	3	1
Carcharhinidae	Shark, Blue (Blue Whaler)	<i>Prionace glauca</i>	2	5	5	5	1	3	1	1	3	1
Clupeidae	Sandy sprat	<i>Hyperlophus vittatus</i>	2	1	1	1	3	1	1	3	1	5
Clupeidae	Herring, Perth	<i>Nematalosa vlamingshi</i>	2	3	2	1	5	1	1	3	1	1
Clupeidae	Blue sprat	<i>Spratelloides robustus</i>	3	1	1	1	3	3	1	3	1	1
Engraulidae	Australian anchovy	<i>Engraulis australis</i>	3	1	1	1	3	3	1	2	1	5
Gerreidae	Silverbelly, Southern	<i>Parequula melbournensis</i>	3	1	2	1	3	3	3	1	1	3.5
Glaucosomatidae	Dhufish, West Australian	<i>Glaucosoma hebraicum</i>	4	3	4	1	4	1	3	2	1	3.25
Hemiramphidae	Southern sea garfish	<i>Hyporhamphus melanochir</i>	2	3	3	1	1	3	2	2	1	3

Table 7. cont.			Biological Profile				Fishery Impact profile					
Family	Common name	Species name	Depth rank	Age at 1st repro.	Max Length	Mode of repro.	Dist.	Manage	Sum of Ranks	Target of another fishery	Cons. list	Mortality
Heterodontidae	Port Jackson Shark	<i>Heterodontus portusjacksoni</i>	2	5	3	5	3	3	4	1	1	1.4
Kyphosidae	Sweep, Footballer	<i>Neotypus obliquus</i>	3	3	2	1	3	3	3	1	1	2.75
Labridae	Groper, Baldchin	<i>Choerodon rubescens</i>	4	3	3	1	4	1	2	2	1	2.3
Lamnidae	Great White Shark	<i>Carcharodon carcharias</i>	2	5	5	5	1	1	1	1	3	3
Lethrinidae	Emperor, Sweetlip (Red Throat)	<i>Lethrinus miniatus</i>	3	3	3	1	2	3	2	2	1	2
Lethrinidae	Emperor, Spangled	<i>Lethrinus nebulosus</i>	4	3	3	1	1	3	1	2	1	2
Mugilidae	Mullet, Yellow Eye (Pilch)	<i>Aldrichetta forsteri</i>	1	3	3	1	2	1	1	3	1	1
Mugilidae	Mullet, Sea	<i>Mugil cephalus</i>	1	3	4	1	1	1	1	3	1	1
Neosebastidae	Gurnard Perches	<i>Neosebastes pandus</i>	4	5	3	1	2	3	3	1	1	2.75
Odontaspidae	Grey Nurse Sharks	<i>Carcharias taurus</i>	3	5	5	5	1	1	2	1	2	1
Plotosidae	Cobbler	<i>Cnidogobius macrocephalus</i>	2	3	3	3	3	1	2	2	1	3.5
Pomacentridae	Scalyfin, Common	<i>Parma mccullochi</i>	2	1	2	1	5	3	1	1	1	1
Pomatomidae	Tailor	<i>Pomatomus saltatrix</i>	3	1	4	1	1	3	3	4	1	2.3
Serranidae	Leopard Wirrah	<i>Acanthistius pardalotus</i>	3	3	3	1	5	3	1	1	1	3
Serranidae	Cod, Breaksea (Black-arse Cod)	<i>Epinephelides armatus</i>	3	3	3	1	4	3	3	2	3	2.3
Serranidae	Cod, Frostback	<i>Epinephelus bilobatus</i>	3	3	2	1	5	3	1	1	1	2

Table 7. cont.			Biological Profile				Fishery Impact profile					
Family	Common name	Species name	Depth rank	Age at 1st repro.	Max Length	Mode of repro.	Dist.	Manage	Sum of Ranks	Target of another fishery	Cons. list	Mortality
Sillaginidae	Whiting, King George	<i>Sillaginodes punctata</i>	2	3	3	1	3	1	2	3	1	2.3
Sillaginidae	Whiting, School Southern / Silver	<i>Sillago bassensis</i>	3	3	2	1	3	3	3	1	1	3
Sillaginidae	Whiting, Yellow-Finned (Western Sand)	<i>Sillago schomburgkii</i>	1	3	2	1	3	1	1	2	1	1
Sillaginidae	Whiting, Western School	<i>Sillago vittata</i>	3	3	2	1	4	1	2	2	1	2.3
Sparidae	Bream, Black	<i>Acanthopagrus butcheri</i>	2	3	3	1	3	3	2	2	1	2
Sparidae	Snapper, Pink	<i>Pagrus auratus</i>	4	3	4	1	2	1	3	4	1	2.3
Sparidae	Bream, Silver (Tarwhine)	<i>Rhabdosargus sarba</i>	3	1	3	1	2	3	3	1	1	2.3
Sphyrnidae	Smooth hammerhead	<i>Sphyrna zygaena</i>	2	3	5	5	1	3	1	1	1	3
Syngnathidae	Tiger pipefish	<i>Filicampus tigris</i>	2	3	2	3	3	3	1	1	3	1
Syngnathidae	Sawtooth pipefish	<i>Maroubra perserrata</i>	2	3	1	3	3	3	1	1	3	1
Syngnathidae	Leafy seadragon	<i>Phycodurus eques</i>	3	3	2	3	3	1	1	1	3	1
Syngnathidae	Common seadragon	<i>Phyllopteryx taeniolatus</i>	3	3	2	3	3	3	1	1	4	1
Syngnathidae	Spotted pipefish	<i>Stigmatopora argus</i>	1	3	2	3	3	3	1	1	3	1
Tetraodontidae	Blowfish, Common	<i>Torquigener pleurogramma</i>	3	1	2	1	3	3	3	1	1	2.3
Tetraodontidae	Orange-spotted pufferfish	<i>Torquigener vicinus</i>	3	1	2	1	5	3	1	1	1	5
Triakidae	Shark, Whiskery	<i>Furgaleus macki</i>	2	5	4	5	3	1	1	2	2	1
Triakidae	Shark, Gummy	<i>Mustelus</i> spp.	2	5	4	5	3	1	2	2	2	1.67

Table 8. Rankings for the biological profile and the Fishery Impact Profile for each of the teleost and elasmobranch species identified after the first cut in the Gascoyne Coast Bioregion. Dist.: Distribution; Cons. List: Conservation Listing.

Family	Common name	Species name	Biological Profile			Fishery Impact profile						
			Depth rank	Age at 1st repro.	Max Length	Mode of repro.	Dist.	Manage	Sum of Ranks	Target of another fishery	Cons. list	Mortality
Aploactinidae	Velvetfish, Bearded	<i>Paraploactis intonsa</i>	3	5	1	1	5	3	1	1	1	5
Apogonidae	Cardinalfish, Many-banded	<i>Apogon brevicaudata</i>	3	1	1	3	2	3	3	1	1	5
Apogonidae	Cardinalfish, Cavite	<i>Apogon cavitiensis</i>	3	1	1	3	1	3	3	1	1	5
Apogonidae	Cardinalfish, Two-eyed	<i>Apogon nigripinnis</i>	3	1	1	3	1	3	3	1	1	5
Ariidae	Giant seacatfish	<i>Netuma thalassina</i>	5	3	4	3	1	3	3	1	1	3.2
Aulostomidae	Flutemouth, Smooth	<i>Fistularia commersonii</i>	3	3	4	1	1	3	3	1	1	5
Bothidae	Flounder, Intermediate	<i>Asterorhombus intermedius</i>	3	3	1	1	1	3	3	1	1	5
Bothidae	Flounder, Blue-spotted	<i>Crossorhombus azureus</i>	3	3	1	1	1	3	3	1	1	5
Bothidae	Flounder, Spiny-headed	<i>Engyprosopon grandisquama</i>	4	3	1	1	1	3	4	1	1	5
Bothidae	Flounder, Large-toothed	<i>Pseudorhombus arsius</i>	4	3	2	1	1	3	3	1	1	5
Bothidae	Flounder, Deep-bodied	<i>Pseudorhombus elevatus</i>	4	3	1	1	1	3	3	1	1	5
Bothidae	Flounder, Small-toothed	<i>Pseudorhombus jenynsii</i>	4	3	2	1	2	3	3	1	1	4
Bothidae	Flounder, Spiny	<i>Pseudorhombus spinosus</i>	4	3	2	1	2	3	3	1	1	5
Callionymidae	Stinkfish, Goodlad's	<i>Callionymus goodladi</i>	2	5	2	1	4	3	4	1	1	5

Table 8. cont.			Biological Profile				Fishery Impact profile					
Family	Common name	Species name	Depth rank	Age at 1st repro.	Max Length	Mode of repro.	Dist.	Manage	Sum of Ranks	Target of another fishery	Cons. list	Mortality
Callionymidae	Stinkfish, Gross's	<i>Callionymus grossi</i>	2	5	1	1	2	3	4	1	1	5
Callionymidae	Stinkfish, Multifilament	<i>Callionymus sublaevis</i>	3	5	1	1	2	3	4	1	1	5
Callionymidae	Dragonet, Fingered	<i>Dactylopus dactylopus</i>	3	5	2	1	1	3	3	1	1	5
Callionymidae	Dragonet, High-finned	<i>Synchiropus rameus</i>	2	5	1	1	2	3	3	1	1	5
Carangidae	Golden trevally	<i>Gnathanodon speciosus</i>	1	3	4	1	1	3	4	1	1	3.2
Carangidae	Trevally, Smooth-tailed	<i>Selaroides leptolepis</i>	3	3	2	1	1	3	3	1	1	5
Carangidae	Trevally, Black-banded Kingfish	<i>Seriolina nigrofasciata</i>	4	3	3	1	1	3	3	1	1	4
Carcharhinidae	Shark, Grey Reef	<i>Carcharhinus amblyrhynchos</i>	2	5	5	5	1	3	1	1	2	1
Carcharhinidae	Shark, Black-tip Reef	<i>Carcharhinus</i> spp.	2	5	5	5	1	3	1	1	2	1.5
Carcharhinidae	Shark, Dusky	<i>Carcharhinus obscurus</i>	2	5	5	5	1	1	1	1	2	1
Carcharhinidae	Sandbar shark	<i>Carcharhinus plumbeus</i>	2	5	5	5	1	1	2	1	2	1.5
Carcharhinidae	Shark, Tiger	<i>Galeocerdo cuvier</i>	2	5	5	5	1	3	1	1	2	1
Carcharhinidae	Shark, Whitetip	<i>Triaenodon obesus</i>	2	5	5	5	1	3	1	1	2	1
Centrogenyidae	Rockcod, False Scorpionfish	<i>Centrogenys vaigiensis</i>	1	3	2	1	1	3	3	1	1	5
Centropomidae	Sand Bass	<i>Psammoperca waigiensis</i>	2	3	2	1	1	3	3	1	1	3.5

Table 8. cont.			Biological Profile				Fishery Impact profile					
Family	Common name	Species name	Depth rank	Age at 1st repro.	Max Length	Mode of repro.	Dist.	Manage	Sum of Ranks	Target of another fishery	Cons. list	Mortality
Clupeidae	Sardine, Gold-striped	<i>Sardinella gibbosa</i>	3	3	1	1	1	3	3	1	1	5
Clupeidae	Sardine, Scaly Mackerel	<i>Sardinella lemuru</i>	3	3	2	1	2	3	3	1	1	5
Cynoglossidae	Sole, Patterned Tongue	<i>Paraplagusia bilineata</i>	2	3	2	1	1	3	3	1	1	5
Dactylopteridae	Searobin, Oriental	<i>Dactyloptena orientalis</i>	3	5	2	1	1	3	3	1	1	5
Dasyatidae	Stingray, Brown Reticulated	<i>Dasyatis leylandi</i>	2	5	2	5	1	3	2	1	2	3
Dasyatidae	Stingray, Black-blotched	<i>Taeniura meyeni</i>	2	5	5	5	1	3	1	1	3	3
Gerreidae	Roach/Banded Silver Biddy	<i>Gerres subfasciatus</i>	3	1	1	1	2	3	3	1	1	5
Glaucosomatidae	Deepsea jewfish	<i>Glaucosoma burgeri</i>	5	3	3	1	2	3	2	2	1	2
Gobiidae	Goby, Shadow	<i>Yongeichthys nebulosus</i>	1	3	1	1	1	3	3	1	1	5
Labridae	Tuskfish, Blue Spotted	<i>Choerodon cauteroma</i>	3	3	2	1	4	3	3	1	1	3.5
Labridae	Tuskfish, Purple	<i>Choerodon cephalotes</i>	3	3	2	1	2	3	4	1	1	4
Labridae	Wrasse, Soela	<i>Suezichthys soelae</i>	3	3	1	1	5	3	1	1	1	5
Lamnidae	Shark, Shortfin Mako	<i>Isurus oxyrinchus</i>	2	5	5	5	1	3	1	1	2	2
Leiognathidae	Ponyfish, Orangefin	<i>Leiognathus bindus</i>	4	1	1	1	1	3	3	1	1	5
Leiognathidae	Ponyfish, Whipfin	<i>Leiognathus leuciscus</i>	3	1	2	1	1	3	4	1	1	5
Leiognathidae	Ponyfish, Zig-Zag	<i>Leiognathus moretoniensis</i>	3	1	1	1	1	3	3	1	1	5

Table 8. cont.		Biological Profile					Fishery Impact profile					
Family	Common name	Species name	Depth rank	Age at 1st repro.	Max Length	Mode of repro.	Dist.	Manage	Sum of Ranks	Target of another fishery	Cons. list	Mortality
Lethrinidae	Emperor, Blue-Lined (Black Snapper)	<i>Lethrinus laticaudis</i>	3	3	3	1	2	3	3	2	1	3.5
Lethrinidae	Emperor, Yellow-Tailed	<i>Lethrinus atkinsoni</i>	3	5	2	1	1	3	1	2	1	2
Lethrinidae	Emperor, Threadfin	<i>Lethrinus genivittatus</i>	3	3	2	1	1	3	5	1	1	4
Lethrinidae	Emperor, Sweetlip (Red Throat)	<i>Lethrinus miniatus</i>	3	3	3	1	2	3	2	2	1	2
Lethrinidae	Spangled Emperor	<i>Lethrinus nebulosus</i>	4	3	3	1	1	3	2	2	1	2
Lethrinidae	Emperor, Blue-Spotted	<i>Lethrinus punctulatus</i>	3	3	2	1	4	3	4	1	1	3.5
Lutjanidae	Stripy sea perch	<i>Lutjanus carponotatus</i>	3	3	2	1	1	1	3	1	1	3.2
Lutjanidae	Seaperch, Saddle-tailed	<i>Lutjanus malabaricus</i>	3	3	3	1	1	1	3	1	1	4
Lutjanidae	Red Emperor	<i>Lutjanus sebae</i>	5	5	4	1	1	1	2	2	1	2
Lutjanidae	Brownstripe snapper	<i>Lutjanus vitta</i>	3	1	2	1	1	1	3	1	1	2.75
Lutjanidae	Jobfish, Rosy (Rosy Snapper)	<i>Pristipomoides filamentosus</i>	5	1	3	1	1	1	1	2	1	2
Lutjanidae	Goldbanded jobfish	<i>Pristipomoides multidens</i>	5	5	3	1	1	1	2	2	1	2
Lutjanidae	Sharptooth jobfish	<i>Pristipomoides typus</i>	5	3	3	1	2	1	1	2	1	2
Monacanthidae	Leatherjacket, Bearded	<i>Anacanthus barbatus</i>	1	1	2	1	1	3	3	1	1	5

Table 8. cont.			Biological Profile					Fishery Impact profile				
Family	Common name	Species name	Depth rank	Age at 1st repro.	Max Length	Mode of repro.	Dist.	Manage	Sum of Ranks	Target of another fishery	Cons. list	Mortality
Monacanthidae	Leatherjacket, Fan-bellied	<i>Monacanthus chinensis</i>	2	1	2	1	1	3	4	1	1	5
Monacanthidae	Leatherjacket, Hair-finned	<i>Paramonacanthus choirocephalus</i>	1	1	1	1	1	3	5	1	1	5
Monacanthidae	Leatherjacket, Pot-bellied	<i>Pseudomonacanthus peroni</i>	1	1	2	1	1	3	3	1	1	5
Mullidae	Goatfish, Yellow-striped	<i>Parupeneus chrysopleuron</i>	5	1	3	1	2	3	3	1	1	5
Mullidae	Goatfish, Asymmetrical	<i>Upeneus asymmetricus</i>	3	1	2	1	1	3	5	1	1	5
Mullidae	Goatfish, Sunrise	<i>Upeneus sulphureus</i>	3	1	2	1	1	3	3	1	1	5
Mullidae	Goatfish, Bar-tailed	<i>Upeneus tragula</i>	3	1	2	1	1	3	3	1	1	5
Nemipteridae	Monocle Bream, False Whiptail	<i>Pentapodus porosus</i>	3	1	2	1	2	3	3	1	1	4
Nemipteridae	Striped whiptail	<i>Pentapodus vitta</i>	3	1	2	1	4	3	5	1	1	3.2
Odontaspidae	Grey Nurse Shark	<i>Carcharias taurus</i>	3	5	5	5	1	1	1	1	2	1
Ostraciidae	Boxfish, Small-nosed	<i>Ostracion nasus</i>	3	3	2	1	1	3	3	1	1	5
Ostraciidae	Turretfish, Small spined	<i>Tetrosomus reipublicae</i>	4	3	2	1	1	3	3	1	1	5
Pegasidae	Seamoth, Slender	<i>Pegasus volitans</i>	3	3	1	1	1	3	3	1	1	5
Pinguipedidae	Grubfish, Red-banded	<i>Parapercis nebulosa</i>	3	3	2	1	1	3	3	1	1	5
Platycephalidae	Flathead, Fringe-eyed	<i>Cymbacephalus nematophthalmus</i>	3	3	3	1	2	3	3	1	1	5

Table 8. cont.			Biological Profile				Fishery Impact profile					
Family	Common name	Species name	Depth rank	Age at 1st repro.	Max Length	Mode of repro.	Dist.	Manage	Sum of Ranks	Target of another fishery	Cons. list	Mortality
Platycephalidae	Flathead, Rusty	<i>Inegocia japonica</i>	3	3	2	1	1	3	4	1	1	5
Platycephalidae	Flathead, Spiny	<i>Onigocia spinosa</i>	5	3	2	1	1	3	3	1	1	5
Platycephalidae	Flathead, Northern Sand	<i>Platycephalus arenarius</i>	3	3	2	1	2	3	3	1	1	4
Platycephalidae	Flathead, Bar-tailed	<i>Platycephalus endrachtensis</i>	3	3	2	1	1	3	3	1	1	3.5
Platycephalidae	Flathead, Long-spined	<i>Platycephalus longispinis</i>	3	3	2	1	3	3	3	1	1	5
Platycephalidae	Flathead, Heart-headed	<i>Sorsogona tuberculata</i>	3	3	1	1	1	3	3	1	1	5
Plotosidae	Catfish, Small-headed	<i>Euristhmus microceps</i>	3	3	3	3	2	3	3	1	1	5
Plotosidae	Catfish, Striped	<i>Plotosus lineatus</i>	3	3	2	3	1	3	3	1	1	5
Pomacentridae	Damsel, Gulf	<i>Pristotis obtusirostris</i>	3	1	1	1	1	3	3	1	1	5
Pomatomidae	Tailor	<i>Pomatomus saltatrix</i>	3	1	4	1	1	3	2	2	1	3
Priacanthidae	Bigeye, Red	<i>Priacanthus macracanthus</i>	3	3	2	1	2	3	3	1	1	5
Rhynchobatidae	Shovelnose Ray, White-spotted Guitar fish	<i>Rhynchobatus</i> spp.	2	5	5	5	2	3	1	1	2	3
Scorpaenidae	Scorpionfish, Long-finned Waspfish	<i>Apistus carinatus</i>	3	3	1	1	1	3	4	1	1	5
Scorpaenidae	Stinger, Spotted	<i>Inimicus sinensis</i>	3	3	2	1	1	3	3	1	1	5
Scorpaenidae	Scorpionfish, Spot Fin Waspfish/Bullrout	<i>Paracentropogon vespa</i>	3	3	1	1	1	3	4	1	1	5
Serranidae	Cod, Breaksea (Black-arse Cod)	<i>Epinephelides armatus</i>	3	5	3	1	4	3	1	1	2	1.5

Table 8. cont.			Biological Profile				Fishery Impact profile					
Family	Common name	Species name	Depth rank	Age at 1st repro.	Max Length	Mode of repro.	Dist.	Manage	Sum of Ranks	Target of another fishery	Cons. list	Mortality
Serranidae	Cod, Flowery	<i>Epinephelus fuscoguttatus</i>	3	3	4	1	1	1	1	1	3	2
Serranidae	Groper, Queensland	<i>Epinephelus lanceolatus</i>	3	3	5	1	1	1	1	1	3	2
Siganidae	Spinefoot, White-spotted	<i>Siganus canaliculatus</i>	3	1	2	1	1	3	3	1	1	4
Sillaginidae	Whiting, Trumpeter	<i>Sillago burrus</i>	3	3	2	1	2	3	4	1	1	5
Sillaginidae	Whiting, Robust	<i>Sillago robusta</i>	3	3	2	1	3	3	3	1	1	5
Sillaginidae	Whiting, Yellow-Finned (Western Sand)	<i>Sillago schomburgkii</i>	1	3	2	1	3	1	1	2	1	1
Sillaginidae	Whiting, Western School	<i>Sillago vittata</i>	3	3	2	1	4	3	3	1	1	3.67
Soleidae	Sole, Dark-Spotted	<i>Aseraggodes melanospilus</i>	1	3	1	1	1	3	3	1	1	5
Sparidae	Bream, Western Yellowfin	<i>Acanthopagrus latus</i>	3	3	2	1	2	3	1	2	1	2
Sparidae	Pink snapper	<i>Pagrus auratus</i>	5	3	4	1	2	1	4	2	1	3.2
Sparidae	Tarwhine	<i>Rhabdosargus sarba</i>	3	1	3	1	2	3	3	1	1	3.5
Sphyrnidae	Shark, Smooth Hammerhead	<i>Sphyrna zygaena</i>	2	5	5	5	1	3	1	1	2	2
Syngnathidae	Pipefish, Tiger	<i>Filicampus tigris</i>	3	1	2	3	3	1	1	1	3	1
Syngnathidae	Pipefish, Ribboned	<i>Haliichthys taeniophorus</i>	3	1	2	3	2	1	1	1	3	1
Syngnathidae		<i>Hippocampus alatus</i>	3	1	1	3	2	1	1	1	3	1
Syngnathidae	Seahorse, Western Spiny	<i>Hippocampus angustus</i>	3	1	2	3	2	1	2	1	3	1

Table 8. cont.			Biological Profile				Fishery Impact profile					
Family	Common name	Species name	Depth rank	Age at 1st repro.	Max Length	Mode of repro.	Dist.	Manage	Sum of Ranks	Target of another fishery	Cons. list	Mortality
Syngnathidae	Seahorse, False-eyed	<i>Hippocampus biocellatus</i>	2	1	1	3	5	1	1	1	1	1
Syngnathidae	Seahorse, Flat-face	<i>Hippocampus planifrons</i> (<i>trimaculatus</i>)	2	1	2	3	1	1	2	1	3	1
Syngnathidae	Seahorses	<i>Hippocampus zebra</i>	3	1	1	3	2	1	1	1	3	1
Syngnathidae	Pipefish, Spotted	<i>Stigmatopora argus</i>	1	1	2	3	3	1	1	1	3	1
Syngnathidae	Pipefish, Alligator	<i>Syngnathoides biaculeatus</i>	2	1	2	3	1	1	1	1	3	1
Syngnathidae	Pipefish, Short-tailed	<i>Trachyrhamphus bicoarctatus</i>	3	1	2	3	1	1	2	1	3	1
Synodontidae	Brushtooth lizardfish	<i>Saurida undosquamis</i>	5	1	2	1	1	3	4	1	1	4
Synodontidae	Lizardfish, Netted	<i>Synodus sageneus</i>	3	1	2	1	1	3	3	1	1	5
Synodontidae	Lizardfish, Painted Grinner	<i>Trachinocephalus myops</i>	3	1	2	1	1	3	3	1	1	5
Terapontidae	Trumpeter	<i>Pelates quadrilineatus</i>	3	3	2	1	1	3	4	1	1	5
Terapontidae	Trumpeter, Striped/Six-lined	<i>Pelates sexlineatus</i>	3	3	1	1	2	3	4	1	1	3.5
Terapontidae	Trumpeter, Banded	<i>Terapon theraps</i>	3	3	2	1	1	3	3	1	1	5
Tetraodontidae	Toadfish, Rough Golden	<i>Lagocephalus lunaris</i>	3	1	2	1	1	3	3	1	1	5
Tetraodontidae	Toadfish, Orange-spotted	<i>Torquigener pallimaculatus</i>	2	1	1	1	2	3	4	1	1	5
Tetraodontidae	Toadfish, Whitley's	<i>Torquigener whitleyi</i>	3	1	1	1	2	3	3	1	1	5
Tetraodontidae	Silverstripe blaasop	<i>Lagocephalus sceleratus</i>	3	1	4	1	1	3	4	1	1	3.2

Table 9. List of the West Coast Bioregion teleost and elasmobranch species and their risk scores under varying weighted analyses in order of lowest to highest average risk. The columns show the different possibilities of priorities in the analysis. Those parameters listed at the top of each column are considered the most important in that analysis and are double weighted. The "none" column has no weighting. The "ave" column is the average of those twelve columns with extra weighting. R: Reproduction; F: Fishing; C: Conservation listing; M: Management; D: Depth; Di: Distribution; Mo: Mortality; S: Size. Colours represent risk categories as described in Table 6; blue = low risk; green = low-moderate risk; yellow = moderate risk; orange = moderate-high risk; red = high risk.

Family	Common name	Species name	Parameters considered most important in analysis												Ave				
			R&F	R&C	R&M	R&D	R&Mo	D&F	D&C	D&M	D&Di	D&Mo	S&F	S&C		S&M	S&D	S&Mo	None
Sillaginidae	Whiting, Yellow-Finned (Western Sand)	<i>Sillago schomburgkii</i>	2.62	2.62	2.36	3.14	2.62	2.29	2.29	2.40	2.74	2.29	2.57	2.57	2.70	3.09	2.57	2.63	2.59
Clupeidae	Sandy sprat	<i>Hyperlophus vittatus</i>	2.50	2.50	3.21	2.83	3.17	3.00	3.00	3.15	3.40	3.80	2.57	2.57	2.70	2.91	3.26	2.92	2.97
Mugilidae	Mullet, Sea	<i>Mugil cephalus</i>	2.79	2.79	3.00	2.79	2.79	2.57	2.57	3.00	2.57	2.57	3.34	3.34	3.90	3.34	3.34	3.00	2.98
Mugilidae	Mullet, Yellow Eye (Pilch)	<i>Aldrichetta forsteri</i>	2.86	2.86	3.25	3.14	2.86	2.57	2.57	2.93	2.83	2.57	3.14	3.14	3.58	3.46	3.14	3.00	2.99
Clupeidae	Blue sprat	<i>Spratelloides robustus</i>	2.48	2.48	3.54	2.86	2.48	3.34	3.34	4.05	3.86	3.34	2.60	2.60	3.15	3.00	2.60	3.00	3.05
Pomacentridae	Scalyfin, Common	<i>Parma mccullochi</i>	2.48	2.48	3.71	3.24	2.48	2.97	2.97	3.20	3.89	2.97	2.97	2.97	3.20	3.89	2.97	3.00	3.09
Engraulidae	Australian anchovy	<i>Engraulis australis</i>	3.05	3.05	3.93	3.43	3.81	4.11	4.11	4.50	4.63	5.14	3.20	3.20	3.50	3.60	4.00	3.75	3.82
Tetraodontidae	Blowfish, Common	<i>Torquigener pleurogramma</i>	3.50	3.07	3.71	3.50	3.36	4.67	4.10	4.33	4.67	4.48	4.20	3.69	3.90	4.20	4.03	3.89	3.96
Clupeidae	Herring, Perth	<i>Nematalosa vlaminghi</i>	3.71	3.71	4.86	4.86	3.71	3.71	3.71	4.00	4.86	3.71	3.71	3.71	4.00	4.86	3.71	4.00	4.06
Sparidae	Bream, Silver (Tarwhine)	<i>Rhabdosargus sarba</i>	3.65	3.17	3.50	3.41	3.49	4.82	4.19	4.49	4.50	4.61	4.82	4.19	4.49	4.50	4.61	4.11	4.16
Gerreidae	Silverbelly, Southern	<i>Parequula melbournensis</i>	3.75	3.32	3.96	3.75	3.86	5.00	4.43	4.63	5.00	5.14	4.50	3.99	4.16	4.50	4.63	4.23	4.31
Syngnathidae	Sawtooth pipefish	<i>Maroubra perserrata</i>	4.64	5.36	5.14	5.36	4.64	4.09	4.71	4.40	4.71	4.09	3.71	4.29	4.00	4.29	3.71	4.50	4.48
Syngnathidae	Spotted pipefish	<i>Stigmatopora argus</i>	4.64	5.36	5.14	5.36	4.64	3.71	4.29	4.00	4.29	3.71	4.09	4.71	4.40	4.71	4.09	4.50	4.48
Hemiramphidae	Southern sea garfish	<i>Hyporhamphus melanochir</i>	4.33	4.02	4.25	4.02	4.64	4.40	4.09	4.68	4.09	4.71	4.80	4.46	5.10	4.46	5.14	4.50	4.48

Table 9. cont.		Parameters considered most important in analysis																	
Family	Common name	Species name	R&F	R&C	R&M	R&D	R& Mo	D&F	D&C	D&M	D& Di	D& Mo	S&F	S&C	S&M	S&D	S& Mo	None	Ave
Lethrinidae	Emperor, Spangled	<i>Lethrinus nebulosus</i>	3.93	3.93	4.29	3.93	4.29	4.71	4.71	5.63	4.71	5.14	4.40	4.40	5.25	4.40	4.80	4.58	4.57
Syngnathidae	Leafy seadragon	<i>Phycodurus eques</i>	4.45	5.26	4.29	5.26	4.45	4.40	5.20	4.20	5.20	4.40	4.09	4.83	3.90	4.83	4.09	4.58	4.59
Sillaginidae	Whiting, King George	<i>Sillaginodes punctata</i>	4.44	4.13	4.67	4.75	4.54	4.50	4.19	4.49	4.82	4.61	4.91	4.57	4.90	5.26	5.03	4.63	4.65
Sillaginidae	Whiting, Western School	<i>Sillago vittata</i>	4.44	4.13	4.65	5.06	4.54	4.91	4.57	4.60	5.60	5.03	4.50	4.19	4.22	5.13	4.61	4.63	4.68
Arripidae	Herring, Australian	<i>Arripis georgianus</i>	4.67	4.38	5.45	4.95	4.76	4.67	4.38	5.08	4.95	4.76	4.67	4.38	5.08	4.95	4.76	4.78	4.79
Tetraodontidae	Orange-spotted pufferfish	<i>Torquigener vicinus</i>	3.64	3.64	5.00	4.50	4.50	4.86	4.86	5.00	6.00	6.00	4.37	4.37	4.50	5.40	5.40	4.67	4.80
Sparidae	Bream, Black	<i>Acanthopagrus butcheri</i>	4.64	4.33	5.14	4.95	4.64	4.71	4.40	4.95	5.03	4.71	5.14	4.80	5.40	5.49	5.14	4.88	4.90
Serranidae	Cod, Frostback	<i>Epinephelus bilobatus</i>	4.33	4.33	5.46	5.57	4.64	4.80	4.80	5.10	6.17	5.14	4.40	4.40	4.68	5.66	4.71	4.88	4.95
Syngnathidae	Tiger pipefish	<i>Filicampus tigris</i>	4.95	5.71	5.43	5.71	4.95	4.46	5.14	4.80	5.14	4.46	4.46	5.14	4.80	5.14	4.46	5.00	4.98
Lethrinidae	Emperor, Sweetlip (Red Throat)	<i>Lethrinus miniatus</i>	4.67	4.33	4.86	4.67	4.67	5.20	4.83	5.53	5.20	5.20	5.20	4.83	5.53	5.20	5.20	5.00	5.01
Carangidae	Sand trevally	<i>Pseudocaranx wrighti</i>	5.06	4.44	4.95	5.06	4.85	5.60	4.91	5.20	5.60	5.37	5.13	4.50	4.77	5.13	4.92	5.00	5.03
Arripidae	Salmon, Australian	<i>Arripis truttaeus</i>	4.29	4.29	5.14	5.00	4.29	5.14	5.14	6.00	6.00	5.14	4.80	4.80	5.60	5.60	4.80	5.04	5.07
Aracnidae	Boxfish	<i>Anoplocapros robustus</i>	5.11	4.49	4.69	4.80	5.26	5.66	4.97	5.25	5.31	5.83	5.19	4.56	4.81	4.87	5.34	5.06	5.08
Carangidae	Scad, Yellowtail	<i>Trachurus novaezealandiae</i>	4.06	3.80	4.18	3.80	4.45	5.76	5.39	6.34	5.39	6.31	5.31	4.97	5.85	4.97	5.83	5.06	5.09
Kyphosidae	Sweep, Footballer	<i>Neotypus obliquus</i>	5.18	4.57	5.07	5.18	5.11	5.74	5.06	5.33	5.74	5.66	5.26	4.64	4.88	5.26	5.19	5.16	5.19
Sillaginidae	Whiting, School Southern / Silver	<i>Sillago bassensis</i>	5.26	4.64	5.14	5.26	5.26	5.83	5.14	5.40	5.83	5.83	5.34	4.71	4.95	5.34	5.34	5.25	5.29
Pomatomidae	Tailor	<i>Pomatomus saltatrix</i>	4.54	4.02	4.57	4.02	4.37	5.94	5.26	6.40	5.26	5.71	6.44	5.70	6.93	5.70	6.19	5.38	5.40

Table 9. cont.		Parameters considered most important in analysis																	
Family	Common name	Species name	R&F	R&C	R&M	R&D	R& Mo	D&F	D&C	D&M	D& Di	D& Mo	S&F	S&C	S&M	S&D	S& Mo	None	Ave
Labridae	Groper, Baldchin	<i>Choerodon rubescens</i>	5.12	4.76	5.20	5.83	5.24	6.14	5.71	5.75	7.00	6.29	5.73	5.33	5.37	6.53	5.87	5.65	5.73
Plotosidae	Cobbler	<i>Cnidogobius macrocephalus</i>	5.87	5.46	5.54	6.27	6.48	5.39	5.01	5.04	5.76	5.94	5.80	5.40	5.43	6.20	6.40	5.73	5.73
Serranidae	Leopard Wirrah	<i>Acanthistius pardalotus</i>	5.00	5.00	6.11	6.33	5.67	5.57	5.57	5.85	7.06	6.31	5.57	5.57	5.85	7.06	6.31	5.83	5.92
Odontaspidae	Grey Nurse Sharks	<i>Carcharias taurus</i>	6.67	6.67	5.18	6.00	6.00	6.00	6.00	5.25	5.40	5.40	6.57	6.57	5.75	5.91	5.91	6.00	5.95
Syngnathidae	Common seadragon	<i>Phyllopteryx taeniolatus</i>	5.67	6.88	6.07	6.48	5.67	5.60	6.80	5.95	6.40	5.60	5.20	6.31	5.53	5.94	5.20	5.96	5.95
Carcharhinidae	Shark, Black tip	<i>Carcharhinus spp.</i>	6.43	7.07	6.50	6.43	6.43	5.43	5.97	6.18	5.43	5.43	6.29	6.91	7.15	6.29	6.29	6.38	6.28
Carcharhinidae	Shark, Sandbar	<i>Carcharhinus plumbeus</i>	6.43	7.71	6.00	6.43	6.43	5.43	6.51	5.70	5.43	5.43	6.29	7.54	6.60	6.29	6.29	6.38	6.30
Triakidae	Shark, Whiskery	<i>Furgaleus macki</i>	6.81	7.43	6.73	8.05	6.81	5.66	6.17	5.85	6.69	5.66	6.29	6.86	6.50	7.43	6.29	6.67	6.61
Sparidae	Snapper, Pink	<i>Pagrus auratus</i>	6.22	5.46	5.89	5.84	5.97	7.47	6.55	7.33	7.01	7.16	7.47	6.55	7.33	7.01	7.16	6.67	6.70
Sphyrnidae	Smooth hammerhead	<i>Sphyrna zygaena</i>	6.02	7.07	7.00	7.07	7.12	5.97	5.97	6.65	5.97	7.06	6.91	6.91	7.70	6.91	8.17	7.08	6.83
Neosebastidae	Gurnard Perches	<i>Neosebastes pandus</i>	7.13	6.22	6.28	6.67	7.01	7.65	6.68	7.12	7.16	7.53	7.20	6.29	6.70	6.74	7.09	6.91	6.90
Carcharhinidae	Shark, Tiger	<i>Galeocerdo cuvier</i>	7.07	8.36	7.00	7.07	7.07	5.97	7.06	6.65	5.97	5.97	6.91	8.17	7.70	6.91	6.91	7.08	6.99
Carcharhinidae	Shark, Blue (Blue Whaler)	<i>Prionace glauca</i>	7.07	8.36	7.00	7.07	7.07	5.97	7.06	6.65	5.97	5.97	6.91	8.17	7.70	6.91	6.91	7.08	6.99
Berycidae	Snapper, Red Bightfish	<i>Centroberyx gerrardi</i>	6.19	6.19	6.98	7.14	6.67	7.06	7.06	8.08	8.14	7.60	6.31	6.31	7.23	7.29	6.80	7.00	7.00
Lamnidae	Great White Shark	<i>Carcharodon carcharias</i>	7.07	8.36	6.00	7.07	8.36	5.97	7.06	5.70	5.97	7.06	6.91	8.17	6.60	6.91	8.17	7.08	7.03
Glaucomatidae	Dhufish, West Australian	<i>Glaukosoma hebraicum</i>	6.57	5.81	6.16	6.95	6.67	7.89	6.97	6.90	8.34	8.00	7.89	6.97	6.90	8.34	8.00	7.13	7.22
Serranidae	Cod, Breaksea (Black-arse Cod)	<i>Epinephelides armatus</i>	6.78	6.78	7.18	7.11	6.56	7.55	7.55	7.26	7.92	7.30	7.55	7.55	7.26	7.92	7.30	7.22	7.31
Triakidae	Shark, Gummy	<i>Mustelus spp.</i>	8.46	8.46	7.60	9.08	8.25	7.03	7.03	6.60	7.54	6.86	7.81	7.81	7.33	8.38	7.62	7.78	7.72
Heterodontidae	Port Jackson Shark	<i>Heterodontus portusjacksoni</i>	10.36	8.57	8.70	9.76	8.81	8.45	6.99	7.40	7.97	7.19	8.95	7.41	7.83	8.43	7.61	8.38	8.30

Table 10. List of the Gascoyne Coast Bioregion teleost and elasmobranch species and their risk scores under varying weighted analyses in order of lowest to highest average risk. The columns show the different possibilities of priorities in the analysis. Those parameters listed at the top of each column are considered the most important in that analysis and are double weighted. The "none" column has no weighting. The "ave" column is the average of those twelve columns with extra weighting. R: Reproduction; F: Fishing; C: Conservation listing; M: Management; D: Depth; Di: Distribution; Mo: Mortality; S: Size. Colours represent risk categories as described in Table 6; blue = low risk; green = low-moderate risk; yellow = moderate risk; orange = moderate-high risk; red = high risk.

Family	Common name	Species name	Parameters considered most important in analysis																
			R&F	R&C	R&M	R&Di	R&Mo	D&F	D&C	D&M	D&Di	D&Mo	S&F	S&C	S&M	S&Di	S&Mo	None	Ave
Sillaginidae	Whiting, Yellow-Finned (Western Sand)	<i>Sillago schomburgkii</i>	2.62	2.62	2.75	3.14	2.62	2.29	2.40	3.20	2.29	2.57	2.57	2.57	3.09	3.09	2.57	2.63	2.67
Monacanthidae	Leatherjacket, Hair-finned	<i>Paramonacanthus chirocephalus</i>	3.00	2.43	2.50	2.43	3.00	2.43	2.50	2.57	3.00	3.00	2.43	2.86	2.43	2.43	2.67	2.70	
Syngnathidae	Pipefish, Alligator	<i>Syngnathoides biaculeatus</i>	2.57	3.14	2.50	2.57	2.57	3.14	2.50	2.86	2.57	2.57	3.14	2.86	2.57	2.57	2.67	2.71	
Lutjanidae	Brownstripe snapper	<i>Lutjanus vitta</i>	2.73	2.30	2.20	2.30	2.68	3.07	2.94	3.36	3.57	3.28	2.76	3.02	2.76	3.21	2.84	2.92	
Monacanthidae	Leatherjacket, Bearded	<i>Anacanthus barbatus</i>	2.83	2.50	2.63	2.50	3.17	2.57	2.70	2.74	3.26	3.40	3.00	3.60	3.00	3.80	2.92	2.97	
Monacanthidae	Leatherjacket, Pot-bellied	<i>Pseudomonacanthus peroni</i>	2.83	2.50	2.63	2.50	3.17	2.57	2.70	2.74	3.26	3.40	3.00	3.60	3.00	3.80	2.92	2.97	
Syngnathidae	Seahorse, False-eyed	<i>Hippocampus biocellatus</i>	2.88	2.88	2.75	3.93	2.88	2.83	2.70	4.11	2.83	2.51	2.51	2.74	2.51	2.51	2.92	2.96	
Syngnathidae	Pipefish, Spotted	<i>Stigmatopora argus</i>	2.88	3.40	2.75	3.40	2.88	2.97	2.40	3.20	2.51	2.83	3.34	3.09	3.34	2.83	2.92	2.96	
Syngnathidae	Seahorse, Winged	<i>Hippocampus alatus</i>	2.86	3.43	2.75	3.14	2.86	3.77	3.03	3.77	3.14	2.57	3.09	2.83	2.83	2.57	3.00	3.05	
Syngnathidae	Seahorse, Flat-face	<i>Hippocampus planifrons (trimaculatus)</i>	3.14	3.43	2.75	2.86	2.86	3.43	2.75	3.14	2.86	3.14	3.43	3.14	2.86	2.86	3.00	3.05	
Syngnathidae	Seahorse, Zebra	<i>Hippocampus zebra</i>	2.86	3.43	2.75	3.14	2.86	3.77	3.03	3.77	3.14	2.57	3.09	2.83	2.83	2.57	3.00	3.05	
Lutjanidae	Jobfish, Rosy (Rosy Snapper)	<i>Pristipomoides filamentosus</i>	2.57	2.57	2.75	2.57	2.86	3.86	4.13	4.71	4.29	3.34	3.34	4.09	3.34	3.71	3.33	3.47	
Tetraodontidae	Toadfish, Orange-spotted	<i>Torquigener pallimaculatus</i>	3.33	2.83	2.92	3.00	3.50	3.40	3.50	3.80	4.20	3.43	2.91	3.43	3.09	3.60	3.33	3.40	

Table 10. cont.		Parameters considered most important in analysis																	
Family	Common name	Species name	R&F	R&C	R&M	R&D	R&Mo	D&F	D&C	D&M	D&Di	D&Mo	S&F	S&C	S&M	S&Di	S&Mo	None	Ave
Syngnathidae	Pipefish, Ribboned	<i>Halilchthys taeniophorus</i>	3.10	3.71	2.98	3.40	3.10	3.43	4.11	3.30	4.11	3.43	3.14	3.77	3.46	3.46	3.14	3.38	3.44
Syngnathidae	Pipefish, Short-tailed	<i>Trachyrhamphus bicoarctatus</i>	3.40	3.71	2.98	3.10	3.10	3.77	4.11	3.30	3.77	3.43	3.46	3.77	3.46	3.14	3.14	3.38	3.44
Gobiidae	Goby, Shadow	<i>Yongeichthys nebulosus</i>	4.05	3.57	3.75	3.57	4.52	3.40	3.00	3.15	3.20	3.80	3.40	3.00	3.60	3.00	3.80	3.50	3.52
Leiognathidae	Ponyfish, Zig-Zag	<i>Leiognathus moretoniensis</i>	3.24	2.86	3.00	2.86	3.62	4.37	3.86	4.05	4.11	4.89	3.40	3.00	3.60	3.00	3.80	3.50	3.58
Pomacentridae	Damsel, Gulf	<i>Pristotis obtusirostris</i>	3.24	2.86	3.00	2.86	3.62	4.37	3.86	4.05	4.11	4.89	3.40	3.00	3.60	3.00	3.80	3.50	3.58
Soleidae	Sole, Dark-Spotted	<i>Aseraggodes melanospilus</i>	4.05	3.57	3.75	3.57	4.52	3.40	3.00	3.15	3.20	3.80	3.40	3.00	3.60	3.00	3.80	3.50	3.52
Gerreidae	Roach/Banded Silver Biddy	<i>Gerres subfasciatus</i>	3.43	3.05	3.17	3.24	3.81	4.63	4.11	4.28	4.63	5.14	3.60	3.20	3.80	3.40	4.00	3.75	3.83
Monacanthidae	Leatherjacket, Fan-bellied	<i>Monacanthus chinensis</i>	3.62	3.05	3.17	3.05	3.81	4.34	3.66	3.80	3.89	4.57	4.34	3.66	4.34	3.66	4.57	3.75	3.83
Syngnathidae	Pipefish, Tiger	<i>Filicampus tigris</i>	3.40	4.02	3.25	4.02	3.40	3.77	4.46	3.60	4.80	3.77	3.46	4.09	3.77	4.09	3.46	3.75	3.82
Syngnathidae	Seahorse, Western Spiny	<i>Hippocampus angustus</i>	3.71	4.02	3.25	3.71	3.40	4.11	4.46	3.60	4.46	3.77	3.77	4.09	3.77	3.77	3.46	3.75	3.82
Tetraodontidae	Toadfish, Whiteley's	<i>Torquigener whiteleyi</i>	3.43	3.05	3.17	3.24	3.81	4.63	4.11	4.28	4.63	5.14	3.60	3.20	3.80	3.40	4.00	3.75	3.83
Siganidae	Spinefoot, White-spotted/Smudgespot	<i>Siganus canaliculatus</i>	3.43	3.00	3.19	3.00	3.64	4.57	4.00	4.25	4.29	4.86	4.11	3.60	4.37	3.60	4.37	3.79	3.89
Lutjanidae	Stripy sea perch	<i>Lutjanus carponotatus</i>	4.09	3.47	3.30	3.47	4.15	4.53	3.84	3.66	4.18	4.59	4.15	3.52	3.83	3.52	4.21	3.83	3.90
Centrogenyidae	Rockcod, False Scorpionfish	<i>Centrogenys vaigiensis</i>	4.45	3.93	4.13	3.93	4.98	3.89	3.43	3.60	3.66	4.34	4.37	3.86	4.63	3.86	4.89	4.08	4.13
Leiognathidae	Ponyfish, Orangefin	<i>Leiognathus bindus</i>	3.64	3.21	3.38	3.21	4.07	5.34	4.71	4.95	5.03	5.97	3.89	3.43	4.11	3.43	4.34	4.08	4.18
Mullidae	Goatfish, Sunrise	<i>Upeneus sulphureus</i>	3.64	3.21	3.38	3.21	4.07	4.86	4.29	4.50	4.57	5.43	4.37	3.86	4.63	3.86	4.89	4.08	4.18
Mullidae	Goatfish, Bar-tailed	<i>Upeneus tragula</i>	3.64	3.21	3.38	3.21	4.07	4.86	4.29	4.50	4.57	5.43	4.37	3.86	4.63	3.86	4.89	4.08	4.18
Nemipteridae	Monocle Bream, False Whiptail	<i>Pentapodus porosus</i>	3.64	3.21	3.38	3.43	3.86	4.86	4.29	4.50	4.86	5.14	4.37	3.86	4.63	4.11	4.63	4.08	4.18

Table 10. cont.		Parameters considered most important in analysis																	
Family	Common name	Species name	R&F	R&C	R&M	R&D	D&F	D&C	D&M	D&D	D&Mo	S&F	S&C	S&M	S&D	S&Mo	None	Ave	
Synodontidae	Lizardfish, Notted	<i>Synodus sageneus</i>	3.64	3.21	3.38	3.21	4.07	4.86	4.29	4.50	4.57	5.43	4.37	3.86	4.63	3.86	4.89	4.08	4.18
Synodontidae	Lizardfish, Painted Grinner	<i>Trachinocephalus myops</i>	3.64	3.21	3.38	3.21	4.07	4.86	4.29	4.50	4.57	5.43	4.37	3.86	4.63	3.86	4.89	4.08	4.18
Tetraodontidae	Toadfish, Rough Golden	<i>Lagocephalus lunaris</i>	3.64	3.21	3.38	3.21	4.07	4.86	4.29	4.50	4.57	5.43	4.37	3.86	4.63	3.86	4.89	4.08	4.18
Serranidae	Cod, Flowery	<i>Epinephelus fuscoguttatus</i>	3.57	4.29	3.44	3.57	3.93	4.00	4.80	3.85	4.40	4.40	4.29	5.14	4.71	4.29	4.71	4.13	4.23
Sparidae	Bream, Western Yellowfin	<i>Acanthopagrus latus</i>	3.71	3.71	4.33	4.02	4.02	4.11	4.11	4.80	5.14	4.46	3.77	3.77	5.03	4.09	4.09	4.13	4.21
Centropomidae	Sand Bass	<i>Psammoperca waigiensis</i>	4.43	3.86	4.13	3.86	4.57	4.43	3.86	4.13	4.14	4.57	4.43	3.86	4.71	3.86	4.57	4.17	4.23
Leiognathidae	Ponyfish, Whipfin	<i>Leiognathus leuciscus</i>	4.07	3.43	3.56	3.43	4.29	5.43	4.57	4.75	4.86	5.71	4.89	4.11	4.89	4.11	5.14	4.38	4.48
Lutjanidae	Sharptooth jobfish	<i>Pristipomoides typus</i>	3.81	3.81	4.00	4.19	4.19	4.86	4.86	5.10	6.31	5.34	4.29	4.29	5.14	4.71	4.71	4.50	4.64
Pomatomidae	Tailor	<i>Pomatomus saltatrix</i>	3.67	3.40	3.90	3.40	3.93	4.80	4.46	5.10	5.14	5.14	5.20	4.83	6.31	4.83	5.57	4.50	4.65
Serranidae	Groper, Queenstand	<i>Epinephelus lanceolatus</i>	3.81	4.57	3.67	3.81	4.19	4.29	5.14	4.13	4.71	4.71	4.86	5.83	5.34	4.86	5.34	4.50	4.62
Sparidae	Tarwhine	<i>Rhabdosargus sarba</i>	3.93	3.45	3.65	3.69	4.05	5.19	4.56	4.81	5.19	5.34	5.19	4.56	5.50	4.87	5.34	4.50	4.62
Lutjanidae	Seaperch, Saddle-tailed	<i>Lutjanus malabaricus</i>	4.67	4.00	3.79	4.00	5.00	5.20	4.46	4.23	4.83	5.57	5.20	4.46	4.83	4.46	5.57	4.58	4.68
Lethrinidae	Emperor, Yellow-Tailed	<i>Lethrinus atkinsoni</i>	4.45	4.45	5.31	4.45	4.86	4.40	4.40	5.25	5.20	4.80	4.09	4.09	5.57	4.09	4.46	4.58	4.66
Mullidae	Goatfish, Asymmetrical	<i>Upeneus asymmetricus</i>	4.50	3.64	3.75	3.64	4.50	6.00	4.86	5.00	5.14	6.00	5.40	4.37	5.14	4.37	5.40	4.67	4.78
Apogonidae	Cardinalfish, Cavite	<i>Apogon caviflensis</i>	4.86	4.29	4.50	4.29	5.43	5.34	4.71	4.95	5.03	5.97	4.37	3.86	4.63	3.86	4.89	4.67	4.73
Apogonidae	Cardinalfish, Two-eyed	<i>Apogon nigripinnis</i>	4.86	4.29	4.50	4.29	5.43	5.34	4.71	4.95	5.03	5.97	4.37	3.86	4.63	3.86	4.89	4.67	4.73
Bothidae	Flounder, Intermediate	<i>Asterorhombus intermedius</i>	4.86	4.29	4.50	4.29	5.43	5.34	4.71	4.95	5.03	5.97	4.37	3.86	4.63	3.86	4.89	4.67	4.73
Bothidae	Flounder, Blue-spotted	<i>Crossorhombus azureus</i>	4.86	4.29	4.50	4.29	5.43	5.34	4.71	4.95	5.03	5.97	4.37	3.86	4.63	3.86	4.89	4.67	4.73

Table 10. cont.		Parameters considered most important in analysis																
Family	Common name	Species name	R&F	R&C	R&M	R&D	D&F	D&C	D&M	D&D	D&Mo	S&F	S&C	S&M	S&D	S&Mo	None	Ave
Ciupidae	Sardine, Gold-striped	<i>Sardinella gibbosa</i>	4.86	4.29	4.50	4.29	5.34	4.71	4.95	5.03	5.97	4.37	3.86	4.63	3.86	4.89	4.67	4.73
Cynoglossidae	Sole, Patterned Tongue	<i>Paraplagusia bilineata</i>	4.86	4.29	4.50	4.29	4.86	4.29	4.50	4.57	5.43	4.86	4.29	5.14	4.29	5.43	4.67	4.73
Pegasiidae	Seamoth, Slender	<i>Pegasus volitans</i>	4.86	4.29	4.50	4.29	5.34	4.71	4.95	5.03	5.97	4.37	3.86	4.63	3.86	4.89	4.67	4.73
Platycephalidae	Flathead, Heart-headed	<i>Sorsogona tuberculata</i>	4.86	4.29	4.50	4.29	5.34	4.71	4.95	5.03	5.97	4.37	3.86	4.63	3.86	4.89	4.67	4.73
Platycephalidae	Flathead, Bar-tailed	<i>Platycephalus endrachtensis</i>	4.80	4.18	4.47	4.18	5.31	4.63	4.95	4.97	5.49	4.87	4.24	5.19	4.24	5.03	4.69	4.77
Terapontidae	Trumpeter, Striped/Six-lined	<i>Pelates sexlineatus</i>	5.29	4.43	4.63	4.71	5.81	4.87	5.09	5.50	5.66	4.76	3.99	4.76	4.24	4.63	4.83	4.90
Carangidae	Golden trevally	<i>Gnathanodon speciosus</i>	5.32	4.40	4.66	4.40	4.91	4.06	4.30	4.34	4.69	6.39	5.27	6.39	5.27	6.09	4.95	5.04
Tetraodontidae	Silverstripe blaasop	<i>Lagocephalus sceleratus</i>	4.50	3.72	3.94	3.72	5.90	4.87	5.16	5.21	5.62	6.39	5.27	6.39	5.27	6.09	4.95	5.09
Carcharinidae	Shark, Dusky	<i>Carcharhinus obscurus</i>	5.14	5.79	5.06	5.14	4.34	4.89	4.28	4.89	4.34	5.03	5.66	5.66	5.03	5.03	4.96	5.03
Apogonidae	Cardinalfish, Many-banded	<i>Apogon breviceaudata</i>	5.14	4.57	4.75	4.86	5.66	5.03	5.23	5.66	6.29	4.63	4.11	4.89	4.37	5.14	5.00	5.07
Lethrinidae	Emperor, Sweetlip (Red Throat)	<i>Lethrinus miniatus</i>	4.67	4.33	4.96	4.67	5.20	4.83	5.53	5.94	5.20	5.20	4.83	6.31	5.20	5.20	5.00	5.12
Scorpaenidae	Scorpionfish, Long-finned Waspfish	<i>Apistus carinatus</i>	5.43	4.57	4.75	4.57	5.97	5.03	5.23	5.34	6.29	4.89	4.11	4.89	4.11	5.14	5.00	5.07
Scorpaenidae	Scorpionfish, Spot Fin Waspfish/ Bullrout	<i>Paracentropogon vespa</i>	5.43	4.57	4.75	4.57	5.97	5.03	5.23	5.34	6.29	4.89	4.11	4.89	4.11	5.14	5.00	5.07
Nemipteridae	Striped whiptail	<i>Pentapodus vitia</i>	4.76	3.90	3.98	4.54	6.34	5.20	5.30	6.34	5.83	5.71	4.68	5.45	5.45	5.25	5.02	5.14
Lethrinidae	Spangled Emperor	<i>Lethrinus nebulosus</i>	4.64	4.29	5.00	4.29	5.57	5.14	6.00	6.00	5.57	5.20	4.80	6.40	4.80	5.20	5.04	5.17
Bothidae	Flounder, Deep-bodied	<i>Pseudorhombus elevatus</i>	5.26	4.64	4.88	4.64	6.31	5.57	5.85	5.94	7.06	4.86	4.29	5.14	4.29	5.43	5.25	5.34

Table 10. cont.		Parameters considered most important in analysis																
Family	Common name	Species name	R&F	R&C	R&M	R&D	D&F	D&C	D&M	D&D	D&Mo	S&F	S&C	S&M	S&D	S&Mo	None	Ave
Carangidae	Trevally, Smooth-tailed	<i>Selaroides leptolepis</i>	5.26	4.64	4.88	4.64	5.88	5.14	5.40	5.49	6.51	5.34	4.71	5.66	4.71	5.97	5.25	5.34
Lutjanidae	Goldbanded jobfish	<i>Pristipomoides multidentis</i>	5.24	4.76	5.00	4.76	5.24	5.43	5.70	6.51	5.97	5.34	4.86	5.83	4.86	5.34	5.25	5.39
Odontaspidae	Grey Nurse Shark	<i>Carcharias taurus</i>	5.33	6.00	5.25	5.33	5.33	5.40	4.73	5.40	4.80	5.26	5.91	5.91	5.26	5.26	5.25	5.33
Ostraciidae	Boxfish, Small-nosed	<i>Ostracion nasus</i>	5.26	4.64	4.88	4.64	5.88	5.14	5.40	5.49	6.51	5.34	4.71	5.66	4.71	5.97	5.25	5.34
Pinguipedidae	Grubfish, Red-baired	<i>Paraperis nebulosa</i>	5.26	4.64	4.88	4.64	5.88	5.14	5.40	5.49	6.51	5.34	4.71	5.66	4.71	5.97	5.25	5.34
Platycephalidae	Flathead, Northern Sand	<i>Platycephalus arenarius</i>	5.26	4.64	4.88	4.95	5.57	5.14	5.40	5.83	6.17	5.34	4.71	5.66	5.03	5.66	5.25	5.34
Scorpaenidae	Stinger, Spotted	<i>Inimicus sinensis</i>	5.26	4.64	4.88	4.64	5.88	5.14	5.40	5.49	6.51	5.34	4.71	5.66	4.71	5.97	5.25	5.34
Synodontidae	Brushtooth lizardfish	<i>Saurida undosquamis</i>	4.71	3.93	4.13	3.93	4.71	6.00	6.30	6.40	7.20	5.66	4.71	5.66	4.71	5.66	5.25	5.39
Terapontidae	Trumpeter, Banded	<i>Terapon theraps</i>	5.26	4.64	4.88	4.64	5.88	5.14	5.40	5.49	6.51	5.34	4.71	5.66	4.71	5.97	5.25	5.34
Labridae	Wrasse, Soela	<i>Suezichthys soela</i>	4.86	4.86	5.00	6.00	6.00	5.34	5.50	6.91	6.60	4.37	4.37	5.14	5.40	5.40	5.33	5.41
Bothidae	Flounder, Spiny-headed	<i>Ergyroproton grandisquama</i>	5.88	4.95	5.15	4.95	6.19	5.94	6.18	6.31	7.43	5.43	4.57	5.43	4.57	5.71	5.63	5.72
Callionymidae	Dragonet, High-finned	<i>Synchiropus rameus</i>	6.43	5.71	5.94	6.07	7.14	5.66	5.23	5.66	6.29	5.14	4.57	5.43	4.86	5.71	5.63	5.66
Clupeidae	Sardine, Scaly Mackerel	<i>Sardinella lemuru</i>	5.57	4.95	5.15	5.26	6.19	5.49	5.70	6.17	6.86	5.66	5.03	5.97	5.34	6.29	5.63	5.72
Labridae	Tuskfish, Purple	<i>Choerodon cephalotes</i>	5.88	4.95	5.15	5.26	5.88	5.49	5.70	6.17	6.51	5.97	5.03	5.97	5.34	5.97	5.63	5.72
Lethrinidae	Emperor, Threadfin	<i>Lethrinus genivittatus</i>	6.19	4.95	5.15	4.95	5.88	5.49	5.70	5.83	6.51	6.29	5.03	5.97	5.03	5.97	5.63	5.72
Lutjanidae	Red Emperor	<i>Lutjanus sebae</i>	5.50	5.00	5.25	5.00	5.50	5.71	6.00	6.86	6.29	5.97	5.43	6.51	5.43	5.97	5.63	5.78
Platycephalidae	Flathead, Rusty	<i>Inegocia japonica</i>	5.88	4.95	5.15	4.95	6.19	5.49	5.70	5.83	6.86	5.97	5.03	5.97	5.03	6.29	5.63	5.72
Priacanthidae	Bigeye, Red	<i>Priacanthus macracanthus</i>	5.57	4.95	5.15	5.26	6.19	5.49	5.70	6.17	6.86	5.66	5.03	5.97	5.34	6.29	5.63	5.72
Terapontidae	Trumpeter	<i>Pelates quadrilineatus</i>	5.88	4.95	5.15	4.95	6.19	5.49	5.70	5.83	6.86	5.97	5.03	5.97	5.03	6.29	5.63	5.72

Table 10. cont.		Parameters considered most important in analysis																	
Family	Common name	Species name	R&F	R&C	R&M	R&D	D&F	D&C	D&M	D&D	D&Mo	S&F	S&C	S&M	S&D	S&Mo	None	Ave	
Labridae	Tuskfish, Blue Spotted	<i>Choerodon cauteroma</i>	5.73	5.11	5.28	6.04	5.88	6.34	5.66	5.85	7.03	6.51	5.81	5.19	6.13	6.13	5.97	5.81	5.91
Bothidae	Flounder, Large-toothed	<i>Pseudorhombus arsius</i>	5.67	5.00	5.25	5.00	6.33	6.80	6.00	6.30	6.40	7.60	5.83	5.14	6.17	5.14	6.51	5.83	5.94
Bothidae	Flounder, Small-toothed	<i>Pseudorhombus jenynsii</i>	5.67	5.00	5.25	5.33	6.00	6.80	6.00	6.30	6.80	7.20	5.83	5.14	6.17	5.49	6.17	5.83	5.94
Ostraciidae	Turretfish, Small spined	<i>Tetrosomus reipublicae</i>	5.67	5.00	5.25	5.00	6.33	6.80	6.00	6.30	6.40	7.60	5.83	5.14	6.17	5.14	6.51	5.83	5.94
Sillaginidae	Whiting, Western School	<i>Sillago vittata</i>	5.78	5.16	5.33	6.09	5.98	6.40	5.71	5.90	7.09	6.63	5.87	5.24	6.18	6.18	6.08	5.88	5.97
Carangidae	Trevally, Black-banded Kingfish	<i>Seriolina nigrofasciata</i>	5.71	5.00	5.31	5.00	6.07	6.86	6.00	6.38	6.43	7.29	6.40	5.60	6.80	5.60	6.80	5.96	6.08
Callionymidae	Stinkfish, Gross's	<i>Callionymus grossi</i>	7.14	6.07	6.25	6.43	7.50	6.29	5.34	5.50	5.97	6.60	5.71	4.86	5.71	5.14	6.00	6.00	6.03
Glaucosomatidae	Deepsea jewfish	<i>Glaucosoma burgeri</i>	5.33	4.95	5.67	5.33	5.33	6.80	6.31	7.23	7.77	6.80	6.00	5.57	7.29	6.00	6.00	6.00	6.16
Platycephalidae	Flathead, Long-spined	<i>Platycephalus longispinis</i>	5.88	5.26	5.42	5.88	6.50	6.51	5.83	6.00	6.86	7.20	5.97	5.34	6.29	5.97	6.60	6.00	6.10
Sillaginidae	Whiting, Trumpeter	<i>Sillago burnus</i>	6.19	5.26	5.42	5.57	6.50	6.86	5.83	6.00	6.51	7.20	6.29	5.34	6.29	5.66	6.60	6.00	6.10
Sillaginidae	Whiting, Robust	<i>Sillago robusta</i>	5.88	5.26	5.42	5.88	6.50	6.51	5.83	6.00	6.86	7.20	5.97	5.34	6.29	5.97	6.60	6.00	6.10
Carcharhinidae	Sandbar shark	<i>Carcharhinus plumbeus</i>	6.75	6.75	5.91	6.11	6.43	5.70	5.70	4.99	5.70	5.43	6.60	6.60	6.60	5.97	6.29	6.02	6.10
Lethrinidae	Emperor, Blue-lined (Black Snapper)	<i>Lethrinus laticaudis</i>	5.83	5.17	5.69	5.50	6.00	6.50	5.76	6.34	6.87	6.69	6.50	5.76	7.24	6.13	6.69	6.04	6.18
Lethrinidae	Emperor, Blue-spotted	<i>Lethrinus punctulatus</i>	6.35	5.42	5.55	6.35	6.19	7.03	6.00	6.15	7.37	6.86	6.44	5.50	6.44	6.44	6.29	6.19	6.29
Bothidae	Flounder, Spiny	<i>Pseudorhombus spinosus</i>	6.00	5.33	5.54	5.67	6.67	7.20	6.40	6.65	7.20	8.00	6.17	5.49	6.51	5.83	6.86	6.25	6.37
Mullidae	Goatfish, Yellow-striped	<i>Parupeneus chrysopleuron</i>	5.14	4.57	4.75	4.86	5.71	7.71	6.86	7.13	7.71	8.57	6.69	5.94	7.06	6.31	7.43	6.25	6.43
Platycephalidae	Flathead, Fringe-eyed	<i>Cymbacephalus nematophthalmus</i>	6.00	5.33	5.54	5.67	6.67	6.69	5.94	6.18	6.69	7.43	6.69	5.94	7.06	6.31	7.43	6.25	6.37
Serranidae	Cod, Breaksea (Black-arse Cod)	<i>Epinephelides armatus</i>	5.79	6.21	6.19	7.07	6.00	5.79	6.21	6.19	7.50	6.00	5.79	6.21	7.07	7.07	6.00	6.25	6.34

Table 10. cont.		Parameters considered most important in analysis																		
Family	Common name	Species name	R&F	R&C	R&M	R&D	R&Di	R&Mo	D&F	D&C	D&M	D&Di	D&Mo	S&F	S&C	S&M	S&Di	S&Mo	None	Ave
Carcharhinidae	Shark, Grey Reef	<i>Carcharhinus amblyrhynchos</i>	6.43	7.07	7.31	6.43	6.43	6.43	5.43	5.97	6.18	5.97	5.43	6.29	6.91	8.17	6.29	6.29	6.38	6.44
Carcharhinidae	Shark, Tiger	<i>Galeocerdo cuvier</i>	6.43	7.07	7.31	6.43	6.43	6.43	5.43	5.97	6.18	5.97	5.43	6.29	6.91	8.17	6.29	6.29	6.38	6.44
Carcharhinidae	Shark, Whitetip	<i>Triaenodon obesus</i>	6.43	7.07	7.31	6.43	6.43	6.43	5.43	5.97	6.18	5.97	5.43	6.29	6.91	8.17	6.29	6.29	6.38	6.44
Plotosidae	Catfish, Striped	<i>Plotosus lineatus</i>	6.88	6.07	6.38	6.07	7.69	7.69	6.80	6.00	6.30	6.40	7.60	6.31	5.57	6.69	5.57	7.06	6.42	6.49
Callionymidae	Dragonet, Fingered	<i>Dactylopus dactylopus</i>	6.88	6.07	6.38	6.07	7.69	7.69	6.80	6.00	6.30	6.40	7.60	6.31	5.57	6.69	5.57	7.06	6.42	6.49
Dactylopteridae	Searobin, Oriental	<i>Dactyloptena orientalis</i>	6.88	6.07	6.38	6.07	7.69	7.69	6.80	6.00	6.30	6.40	7.60	6.31	5.57	6.69	5.57	7.06	6.42	6.49
Platycephalidae	Flathead, Spiny	<i>Origocia spinosa</i>	6.07	5.36	5.63	5.36	6.79	7.77	6.86	7.20	7.31	8.69	6.31	5.57	6.69	5.57	5.57	7.06	6.42	6.55
Aulostomidae	Flutemouth, Smooth	<i>Fistularia commersonii</i>	6.07	5.36	5.63	5.36	6.79	6.80	6.00	6.30	6.40	7.60	7.29	6.43	7.71	6.43	6.43	8.14	6.42	6.55
Aploactinidae	Velvetfish, Bearded	<i>Paraploactis intonsa</i>	6.48	6.48	6.67	8.00	8.00	8.00	6.31	6.31	6.50	8.17	7.80	5.34	5.34	6.29	6.60	6.60	6.67	6.73
Callionymidae	Stinkfish, Multifilament	<i>Callionymus sublaevis</i>	7.62	6.48	6.67	6.86	8.00	8.00	7.43	6.31	6.50	7.06	7.80	6.29	5.34	6.29	5.66	6.60	6.67	6.73
Carcharhinidae	Shark, Black-tip Reef	<i>Carcharhinus melanopterus</i>	6.75	7.39	7.59	6.75	7.07	7.07	5.70	6.24	6.41	6.24	5.97	6.60	7.23	8.49	6.60	6.91	6.73	6.80
Dasyatidae	Stingray, Brown Reticulated	<i>Dasyatis leylandi</i>	8.00	8.00	8.00	7.43	8.57	8.57	6.40	6.40	6.40	6.40	6.86	6.40	6.40	7.31	5.94	6.86	7.00	7.02
Lamnidae	Shark, Shortfin Mako	<i>Isurus oxyrinchus</i>	7.07	7.71	7.88	7.07	7.71	7.71	5.97	6.51	6.65	6.51	6.51	6.91	7.54	8.80	6.91	7.54	7.08	7.16
Sphymidae	Shark, Smooth Hammerhead	<i>Sphyma zygaena</i>	7.07	7.71	7.88	7.07	7.71	7.71	5.97	6.51	6.65	6.51	6.51	6.91	7.54	8.80	6.91	7.54	7.08	7.16
Sparidae	Pink snapper	<i>Pagrus auratus</i>	6.96	5.75	5.74	6.15	6.64	8.85	8.85	7.30	7.29	8.85	8.43	8.35	6.90	7.87	7.38	7.97	7.15	7.36
Callionymidae	Stinkfish, Goodlad's	<i>Callionymus goodladi</i>	8.38	7.24	7.33	8.38	8.76	8.76	7.54	6.51	6.60	7.89	7.89	7.54	6.51	7.54	7.54	7.89	7.50	7.57
Plotosidae	Catfish, Small-headed	<i>Euristhmus microceps</i>	7.71	6.86	7.13	7.29	8.57	8.57	7.71	6.86	7.13	7.71	8.57	7.71	6.86	8.14	7.29	8.57	7.50	7.61
Ariidae	Giant seacatfish	<i>Netuma thalassina</i>	7.60	6.60	7.09	6.60	7.70	8.69	7.54	8.10	8.10	8.11	8.80	8.25	7.17	8.79	7.17	8.36	7.63	7.77
Dasyatidae	Stingray, Black-blotched	<i>Taeniura meyeni</i>	8.36	9.64	9.00	8.36	9.64	9.64	7.06	8.14	7.60	7.60	8.14	8.17	9.43	10.06	8.17	9.43	8.50	8.59
Rhynchobatidae	Shovelnose Ray, Whitespot Guitar fish	<i>Rhynchobatus australiae</i>	8.36	9.00	9.00	9.00	9.64	9.64	7.06	7.60	7.60	8.14	8.14	8.17	8.80	10.06	8.80	9.43	8.50	8.59

Table 11. Top 20 ranked species in the West Coast Bioregion. Rank is the position on the risk assessment table above. Score is the average risk assessment score out of a possible 23. Colours represent risk categories as described in Table 6; blue = low risk; green = low-moderate risk; yellow = moderate risk; orange = moderate-high risk; red = high risk.

Family	Common name	Species name	Score	Comments
Pomatomidae	Tailor	<i>Pomatomus saltatrix</i>	5.4	If fishing remain at levels recorded in this study or fall below these levels of effort there should be no cause for concern
Plotosidae	Cobbler	<i>Cnidogobius macrocephalus</i>	5.73	
Neosebastidae	Gurnard Perches	<i>Neosebastes pandus</i>	6.90	
Berycidae	Snapper, Red (bightfish)	<i>Centroberyx gerrardi</i>	7.00	
Serranidae	Leopard Wirrah	<i>Acanthistius pardalotus</i>	5.92	Endemic species caught at relatively low levels. At levels recorded in this study, it may not be at any risk; however more biological and ecological information would provide a greater understanding of this species and its resilience to fishing pressure.
Labridae	Groper, Baldchin	<i>Choerodon rubescens</i>	5.73	These are target species that are undersize or individuals caught beyond the catch quota. They are all caught in relatively high levels within some of those fisheries that interact with them. At present there are measures in place to monitor the stocks of these species, and management is trying to reduce fishing effort by 50%. Further research may not be required until the impact of this effort reduction is assessed.
Sparidae	Snapper, Pink	<i>Pagrus auratus</i>	6.70	
Glaucomatidae	Dhufish, West Australian	<i>Glaucosoma hebraicum</i>	7.22	
Serranidae	Cod, Breaksea (Black-arse Cod)	<i>Epinephelides armatus</i>	7.31	

Table 11. cont.			
Family	Common name	Species name	Score
Heterodontidae	Port Jackson Shark	<i>Heterodontus portusjacksoni</i>	8.30
Triakidae	Shark, Whiskery	<i>Furgaleus macki</i>	6.61
Carcharhinidae	Shark, Blue (Blue Whaler)	<i>Prionace glauca</i>	6.99
Carcharhinidae	'blacktip'	<i>Carcharhinus</i> spp. (including <i>C. brevipinna</i> , <i>C. limbatus</i> , <i>C. melanopterus</i> , <i>C. sorrah</i> , <i>C. tilstoni</i>)	6.28
Carcharhinidae	Shark, Tiger	<i>Galeocerdo cuvier</i>	6.99
Carcharhinidae	Shark, Sandbar	<i>Carcharhinus plumbeus</i>	6.3
Sphyrnidae	Smooth hammerhead	<i>Sphyrna zygaena</i>	6.83
Triakidae	Shark, Gummy	<i>Mustelus antarcticus</i>	7.72
Odontaspidae	Grey Nurse Sharks	<i>Carcharias taurus</i>	5.95
Syngnathidae	Common seadragon	<i>Phyllopteryx taeniolatus</i>	5.95
Lamnidae	Great White Shark	<i>Carcharodon carcharias</i>	7.03

This elasmobranch species is caught moderately to abundantly in most fisheries that interact with them. They are a highly abundant species in WA. There seems to be no cause for concern at fishing levels recorded in this study, but should levels increase then this species could potentially be at risk. A possible suggestion would be to gather more information on the distribution and abundance of this species or develop monitoring tools to monitor stocks.

These species are present in the list because elasmobranchs have life history characteristics that make them susceptible to overfishing and they were reported being caught in numerous fisheries. However, the accuracy of species identification is uncertain and the identified levels of shark bycatch were small relative to targeted catches at population or stock scales. As targeted shark catches are carefully regulated, regularly monitored and considered to be sustainable, the bycatch scores estimated here do not necessarily represent significant risks to the species' populations/stocks.

These species are TEPS. At levels recorded in this study, they are caught minimally and may not be at risk. However, should fishing levels increase, they may become at risk.

Table 12. Top 20 ranked species in the Gascoyne Coast Bioregion. Rank is the position on the risk assessment table above. Score is the average risk assessment score out of a possible 23. Colours represent risk categories as described in Table 6; blue = low risk; green = low-moderate risk; yellow = moderate risk; orange = moderate-high risk; red = high risk.

Family	Common name	Species name	Score	Comments
Aulostomidae	Flutemouth, Smooth	<i>Fistularia commersonii</i>	6.55	If fishing pressure remains at levels recorded in this study, or fall below these levels of effort there should be no cause for concern
Platycephalidae	Flathead, Spiny	<i>Onigocia spinosa</i>	6.55	
Callionymidae	Stinkfish, Goodlad's	<i>Callionymus goodladi</i>	7.57	All of these fish are included in the top twenty because no 'Age at first reproduction' data were available for co-genera or co-familial species so they received a maximum score of 5 for this parameter. If they had received a score of three they would have a much lower relative risk score.
Callionymidae	Stinkfish, Multifilament	<i>Callionymus sublaevis</i>	6.73	
Aploactinidae	Velvetfish, Bearded	<i>Paraploactis intonsa</i>	6.73	
Callionymidae	Dragonet, Fingered	<i>Dactylopus dactylopus</i>	6.49	
Dactylopteridae	Searobin, Oriental	<i>Dactyloptena orientalis</i>	6.49	
Sparidae	Pink snapper	<i>Pagrus auratus</i>	7.36	This is a target species that are categorised as bycatch when undersize or individuals caught beyond the catch quota. It is also caught as juveniles in the Shark Bay Prawn Trawl fishery. It is caught at relatively high levels within wet-line fisheries that interact with them, and relatively few are caught in the trawls. Ecological and biological studies have lead to management changes that are designed to maintain the stock of this species.

Table 12. cont.

Family	Common name	Species name	Score	Comments
Carcharhinidae	Shark, Grey Reef	<i>Carcharhinus amblyrhynchos</i>	6.44	These species are present in the list because elasmobranchs have life history characteristics that make them susceptible to overfishing and they were reported being caught in numerous fisheries. However, the accuracy of species identification is uncertain and the identified levels of shark bycatch were small relative to targeted catches at population or stock scales. As targeted shark catches are carefully regulated, regularly monitored and considered to be sustainable, the bycatch scores estimated here do not necessarily represent significant risks to the species' populations/stocks.
Carcharhinidae	Shark, Tiger	<i>Galeocerdo cuvier</i>	6.44	
Carcharhinidae	Shark, Whitetip	<i>Triaenodon obesus</i>	6.44	
Carcharhinidae	Shark, Black-tip Reef	<i>Carcharhinus</i> spp.	6.80	
Lamnidae	Shark, Shortfin Mako	<i>Isurus oxyrinchus</i>	7.16	
Sphymidae	Shark, Smooth Hammerhead	<i>Sphyrna zygaena</i>	7.16	
Rhynchobatidae	Shovelnose Ray, Whitespot Guitar fish	<i>Rhynchobatus australiae</i>	8.59	
Dasyatidae	Stingray, Brown Reticulated	<i>Dasyatis leylandi</i>	7.02	These species are TEPS and are elasmobranchs (see above). At levels recorded in this study, they are caught minimally. The introduction of Turtle Exclusion Devices (TEDs) in non-selective trawl fishing has probably reduced the catch of larger individuals of these species even further and may not be at risk. However, should fishing levels increase, they will become at risk.
Dasyatidae	Stingray, Black-blotched	<i>Taeniura meyeni</i>	8.59	
Plotosidae	Catfish, Striped	<i>Plotosus lineatus</i>	6.49	These species are demersal brooding species, which have life history characteristics that may make them susceptible to trawl fishing. Fishing levels recorded in this study are low for all species, except for <i>Plotosus lineatus</i> . This is also a schooling species and was picked up irregularly in large schools. At present fishing levels these species are not at risk. Should effort increase, these species may become at risk.
Plotosidae	Catfish, Small-headed	<i>Euristhmus microceps</i>	7.61	
Ariidae	Giant seacatfish	<i>Netuma thalassina</i>	7.77	

Table 13. Rankings for the biological profile and the Fishery Impact Profile for each of the Threatened, Endangered and Protected species reported in the Gascoyne Coast Bioregion. Where common name refers to a group of species, the most common species for that region was used. Dist.: Distribution; Cons. List: Conservation Listing.

Bioregion	Common name	Species name	Biological Profile			Fishery Impact profile					
			Age at 1st repro.	No. offspring	Max age	Mode of repro.	Sum of Ranks	Mortality	Cons. list	Other Impacts	Dist.
Gascoyne Coast	Cormorant, General	<i>Phalacrocorax varius</i>	1	4	2	3	1	2	1	3	1
	Seasnake	<i>Hydrophis elegans</i>	2	3	2	4	5	1	1	1	1
	Syngnathids (bycatch)	<i>Hippocampus angustus</i>	1	1	2	2	5	1	3	1	3
	Turtle, flatback	<i>Natator depressus</i>	5	2	5	5	1	2	3	5	3
	Turtle, General	Used <i>Chelonia mydas</i>	5	1	5	5	4	2	4	5	1
	Turtle, Green	<i>Chelonia mydas</i>	5	1	5	5	2	2	4	5	1
	Turtle, loggerhead	<i>Caretta caretta</i>	5	1	5	5	2	2	4	5	1

Table 14. Rankings for the biological profile and the Fishery Impact Profile for each of the Threatened, Endangered and Protected species reported in the West Coast Bioregion. Where common name refers to a group of species, the most common species for that region was used.

Bioregion	Common name	Species name	Biological Profile			Fishery Impact profile					
			Age at 1st repro.	No. offspring	Max age	Mode of repro.	Sum of Ranks	Mortality	Cons. list	Other Impacts	Dist.
West Coast	Cormorant, General	<i>Phalacrocorax varius</i>	1	4	2	3	3	2	1	3	1
	Whales	<i>Megaptera novaeangliae</i>	5	5	5	4	3	1	1	1	1
	Shark, Great White	<i>Carcharodon carcharias</i>	5	2	4	4	2	2	3	1	1
	Shark, Grey nurse	<i>Carcharias taurus</i>	5	3	3	4	5	1	2	1	1
	Dolphins	<i>Tursiops truncatus</i>	5	5	4	3	2	4	1	1	1
	Seal, General	<i>Arctocephalus forsteri</i>	5	4	3	3	1	5	1	5	3
	Turtle, General	<i>Caretta caretta</i>	5	1	5	5	3	2	4	5	1

Table 15. Rankings for the biological profile and the Fishery Impact Profile for each of the Threatened, Endangered and Protected species reported in the South Coast Bioregion. Where common name refers to a group of species, the most common species for that region was used.

Bioregion	Common name	Species name	Biological Profile			Fishery Impact profile					
			Age at 1st repro.	No. offspring	Max age	Mode of repro.	Sum of Ranks	Mortality	Cons. list	Other Impacts	Dist.
South Coast	Cormorant, General	<i>Phalacrocorax varius</i>	1	4	2	5	1	1	1	3	1
	Dolphin	<i>Tursiops truncatus</i>	5	5	4	3	1	4	1	1	1
	Duck, Musk	<i>Biziura lobata</i>	1	3	4	3	3	2	1	3	3
	Sea lions	<i>Neophoca cinerea</i>	3	4	4	4	1	5	4	5	5
	Seal, General	<i>Arctocephalus forsteri</i>	5	4	2	3	3	4	1	5	3
	Shark, Grey nurse	<i>Carcharius taurus</i>	5	3	2	4	5	2	2	1	1
	Shark, White pointer	<i>Carcharodon carcharias</i>	5	2	4	4	5	1	3	1	1
	Shearwater, General	<i>Puffinus carneipes</i>	5	4	4	3	5	2	1	3	1
	Turtle, Leatherback	<i>Dermochelys coriacea</i>	5	1	5	5	1	1	4	5	1
	Turtles, General	<i>Caretta caretta</i>	5	1	5	5	1	1	4	5	1
	Whale, General	<i>Megaptera novaeangliae</i>	5	5	4	3	1	1	1	1	1

Table 16. List of the Gascoyne Coast Threatened, Endangered and Protected (TEP) species and their risk scores under varying combinations of weighted parameters in order of lowest to highest average risk. Those parameters listed at the top of each column are considered the most important in that analysis and are double weighted. The "none" column has no weighting. The "ave" column is the average of those ten columns with extra weighting. R: Reproduction; F: Fishing; C: Conservation listing; O: Other impacts; Di: Distribution; Mo: Mortality; A: Age. Where common name refers to a group of species, the most common species for that region was used. Colours represent risk categories as described in Table 6; blue = low risk; green = low-moderate risk; yellow = moderate risk; orange = moderate-high risk; red = high risk.

Bioregion	Common name	Species name	R&F	R&C	R&O	R&D	R&Mo	A&F	A&C	A&O	A&Di	A&Mo	None	Ave
Gascoyne Coast	Syngnathids (bycatch)	<i>Hippocampus angustus</i>	3.88	3.81	3.33	3.81	3.33	4.34	4.27	3.73	4.27	3.73	3.90	3.86
	Cormorant, General	<i>Phalacrocorax varius</i>	4.04	3.86	4.71	3.86	4.29	3.77	3.60	4.40	3.60	4.00	4.00	4.01
	Seasnake	<i>Hydrophis elegans</i>	6.12	4.76	4.76	4.76	4.76	5.57	4.33	4.33	4.33	4.33	4.95	4.86
	Turtle, Green	<i>Chelonia mydas</i>	9.92	11.57	12.21	9.64	10.29	10.80	12.60	13.30	10.50	11.20	11.20	11.20
	Turtle, loggerhead	<i>Caretta caretta</i>	9.92	11.57	12.21	9.64	10.29	10.80	12.60	13.30	10.50	11.20	11.20	11.20
	Turtle, flatback	<i>Natator depressus</i>	10.06	11.74	13.12	11.74	11.05	10.69	12.47	13.93	12.47	11.73	11.90	11.92
	Turtle, General	<i>Chelonia mydas</i>	12.12	12.86	13.50	10.93	11.57	13.20	14.00	14.70	11.90	12.60	12.80	12.75

Table 17. List of the West Coast Threatened, Endangered and Protected (TEP) species and their risk scores under varying combinations of weighted parameters in order of lowest to highest average risk. Those parameters listed at the top of each column are considered the most important in that analysis and are double weighted. The "none" column has no weighting. The "ave" column is the average of those ten columns with extra weighting. R: Reproduction; F: Fishing; C: Conservation listing; O: Other impacts; Di: Distribution; Mo: Mortality; A: Age. Where common name refers to a group of species, the most common species for that region was used. Colours represent risk categories as described in Table 6; blue = low risk; green = low-moderate risk; yellow = moderate risk; orange = moderate-high risk; red = high risk.

Bioregion	Common name	Species name	R&F	R&C	R&O	R&	R&F	A&F	A&C	A&O	A&Di	A&Mo	None	Ave		
			Di	Mo	Di	Mo	Di	Mo	Di	Mo	Di	Mo	Di	Mo		
West Coast	Cormorant, General	<i>Phalacrocorax varius</i>	5.57	4.71	5.57	4.71	5.20	4.40	5.20	4.40	5.20	4.40	4.80	5.00	4.99	
			7.86	6.29	6.29	6.29	8.00	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.65	6.69
	Shark, Great White	<i>Carcharodon carcharias</i>	6.81	7.43	6.19	6.19	6.97	7.60	6.97	7.60	6.33	6.33	6.97	6.75	6.74	
			7.86	7.14	7.14	7.14	7.70	7.00	7.00	7.00	7.00	7.00	9.10	7.65	7.47	
	Shark, Grey nurse	<i>Carcharias taurus</i>	9.64	7.71	7.07	7.07	9.00	7.20	9.00	7.20	6.60	6.60	6.60	7.50	7.55	
			11.57	10.29	12.86	11.57	10.80	9.60	12.00	10.80	10.80	10.80	10.80	11.25	11.23	
	Seal, General	<i>Arctocephalus forsteri</i>	11.57	10.29	12.86	11.57	10.80	9.60	12.00	10.80	10.80	10.80	10.80	11.25	11.23	
			11.57	12.21	12.86	10.29	12.60	13.30	12.60	12.60	12.60	12.60	9.80	11.90	12.00	11.80
	Turtle, General	<i>Caretta caretta</i>	11.57	12.21	12.86	10.29	12.60	13.30	12.60	13.30	12.60	12.60	9.80	11.90	12.00	11.80
			11.57	12.21	12.86	10.29	12.60	13.30	12.60	13.30	12.60	12.60	9.80	11.90	12.00	11.80

Table 18. List of the South Coast Threatened, Endangered and Protected (TEP) species and their risk scores under varying combinations of weighted parameters in order of lowest to highest average risk. Those parameters listed at the top of each column are considered the most important in that analysis and are double weighted. The "none" column has no weighting. The "ave" column is the average of those ten columns with extra weighting. R: Reproduction; F: Fishing; C: Conservation listing; O: Other impacts; Di: Distribution; Mo: Mortality; A: Age. Where common name refers to a group of species, the most common species for that region was used. Colours represent risk categories as described in Table 6; blue = low risk; green = low-moderate risk; yellow = moderate risk; orange = moderate-high risk; red = high risk.

Bioregion	Common name	Species name	R&F	R&C	R&O	R&D	R&Mo	A&F	A&C	A&O	A&Di	A&Mo	None	Ave
South Coast	Cormorant, General	<i>Phalacrocorax varius</i>	4.19	4.19	5.24	4.19	4.19	3.73	3.73	4.67	3.73	3.73	4.20	4.21
	Whale, General	<i>Megaptera novaeangliae</i>	4.29	4.29	4.29	4.29	4.29	4.20	4.20	4.20	4.20	4.20	4.25	4.25
	Duck, Musk	<i>Biziura lobata</i>	6.43	6.43	6.43	6.43	8.57	6.30	6.30	6.30	6.30	8.40	6.80	6.61
	Dolphin	<i>Tursiops truncatus</i>	6.43	5.57	6.43	6.43	6.00	7.50	6.50	7.50	7.50	7.00	6.60	6.65
	Shark, Grey nurse	<i>Carcharius taurus</i>	9.90	8.05	7.43	7.43	8.05	8.53	6.93	6.40	6.40	6.93	7.70	7.68
	Shark, White pointer	<i>Carcharodon carcharias</i>	9.90	8.67	7.43	7.43	7.43	10.13	8.87	7.60	7.60	7.60	8.25	8.34
	Shearwater, General	<i>Puffinus carneipes</i>	11.33	8.67	10.00	8.67	9.33	11.33	8.67	10.00	8.67	9.33	9.60	9.63
	Turtle, Leatherback	<i>Dermochelys coriacea</i>	8.36	10.29	10.93	8.36	8.36	9.10	11.20	11.90	9.10	9.10	9.60	9.73
	Turtles, General	<i>Caretta caretta</i>	8.36	10.29	10.93	8.36	8.36	9.10	11.20	11.90	9.10	9.10	9.60	9.73
	Seal, General	<i>Arctocephalus forsteri</i>	11.76	10.52	13.00	11.76	12.38	10.13	9.07	11.20	11.20	10.13	10.67	11.20
Sea lions	<i>Neophoca cinerea</i>	13.00	14.86	15.48	15.48	15.48	13.30	15.20	15.83	15.83	15.83	15.83	15.00	14.94

Table 19. TEP species in the Gascoyne Coast Bioregion. Rank is the position on the risk assessment table above. Score is the average risk assessment score out of a possible 25. Where common name refers to a group of species, the most common species for that region was used. Where common name refers to a group of species, the most common species for that region was used. Colours represent risk categories as described in Table 6; blue = low risk; green = low-moderate risk; yellow = moderate risk; orange = moderate-high risk; red = high risk.

Common name	Species name	Score	Comments
Syngnathids (bycatch)	<i>Hippocampus angustus</i>	3.86	All these TEPs have low to low-moderate risk assessment scores based on current data and methods. As they are TEP species, this score should not discount the need to mitigate the catch of these species. More studies of mitigation techniques are required to enable reduction of these TEP species.
Cormorant, General	<i>Phalacrocorax varius</i>	4.01	
Seasnake	<i>Hydrophis elegans</i>	4.86	
Turtle, Green	<i>Chelonia mydas</i>	11.20	Turtles are high in this risk assessment due to their high-risk life history characteristics and their endangered conservation status. Non-selective trawling mostly catches them. Turtle exclusion devices (TEDs) have been installed in all Gascoyne fisheries and evidence shows that the majority of turtles are excluded from the nets with minimal mortality (Kangas and Thompson, 2004).
Turtle, loggerhead	<i>Caretta caretta</i>	11.20	
Turtle, flatback	<i>Natator depressus</i>	11.92	
Turtle, General	<i>Chelonia mydas</i>	12.75	

Table 20. TEP species in the West Coast Bioregion. Rank is the position on the risk assessment table above. Score is the average risk assessment score out of a possible 25. Where common name refers to a group of species, the most common species for that region was used. Colours represent risk categories as described in Table 6; blue = low risk; green = low-moderate risk; yellow = moderate risk; orange = moderate-high risk; red = high risk.

Common name	Species name	Score	Comments
Cormorant, General	<i>Phalacrocorax varius</i>	4.99	All these TEPs have low to low-moderate risk assessment scores based on current data and methods. As they are TEP species, this score should not discount the need to mitigate the catch of these species. More studies of mitigation techniques are required to enable reduction of these TEP species.
Whales	<i>Megaptera novaeangliae</i>	6.69	
Shark, Great White	<i>Carcharodon carcharias</i>	6.74	
Shark, Grey nurse	<i>Carcharius taurus</i>	7.47	
Dolphins	<i>Tursiops truncatus</i>	7.55	
Seal, General	<i>Arctocephalus forsteri</i>	11.23	Only one reported interaction in the last 4 years. The seal died in this particular interaction so 100% mortality was recorded. This group features relatively highly because of the mammalian life history characteristics and the high percentage mortality ranking.
Turtle, General	<i>Caretta caretta</i>	11.80	Turtles are relatively high in this risk assessment due to their high-risk life history characteristics and their endangered conservation status. Non-selective trawling mostly catches them. Turtle exclusion devices (TEDs) have been installed in all Gascoyne fisheries and evidence shows that the majority of turtles are excluded from the nets with minimal mortality (Kangas and Thompson, 2004).

Table 21. TEP species in the South Coast Bioregion. Rank is the position on the risk assessment table above. Score is the average risk assessment score out of a possible 25. Where common name refers to a group of species, the most common species for that region was used. Colours represent risk categories as described in Table 6; blue = low risk; green = low-moderate risk; yellow = moderate risk; orange = moderate-high risk; red = high risk.

Common name	Species name	Score	Comments
Cormorant, General	<i>Phalacrocorax varius</i>	4.21	All these TEPs have low to low-moderate risk assessment scores based on current data and methods. As they are TEP species, this score should not discount the need to mitigate the catch of these species. More studies of mitigation techniques are required to enable reduction of these TEP species.
Whale, General	<i>Megaptera novaeangliae</i>	4.25	
Duck, Musk	<i>Biziura lobata</i>	6.61	
Dolphin	<i>Tursiops truncatus</i>	6.65	
Shark, Grey nurse	<i>Carcharius taurus</i>	7.68	
Shark, White pointer	<i>Carcharodon carcharias</i>	8.34	It is important to note that while this species is listed as critically endangered in NSW, it is only listed as near threatened in WA. This risk score does not create concern for this species.
Shearwater, General	Used <i>Puffinus carneipes</i>	9.63	Interactions with this species are irregular and the interaction mortality rate is low. This risk score does not create concern for this species, but does not negate the need to investigate mitigation techniques.
Turtle, Leatherback	<i>Dermochelys coriacea</i>	9.73	This is based on interactions with several species. Despite low mortality and their conservation listing is least concern, their avian life history characteristics and high interaction rate determine this groups score.
Turtles, General	Used <i>Caretta caretta</i>	9.73	Turtles are high in this risk assessment due to their high-risk life history characteristics and their endangered conservation status. In the past four years 1 turtle was reported caught with a squid jig and the other report was from a pot on the South Coast. Neither caused mortality.
Seal, General	<i>Arctocephalus forsteri</i>	11.11	The "Seal, general" group from the SCB may be a number of species including the endangered ASL. For notes on this group see below.
Sea lions	<i>Neophoca cinerea</i>	14.94	Sea lions are high in this risk assessment due to their high-risk life history characteristics and their endangered conservation status. They have reportedly been caught twice (only 2009) in the past four years in the Demersal gillnet fishery with 100% mortality. Estimates of interactions between the DGLL fishery and ASL are required by DEWHA and DoF. Discussions are underway with management and industry to work out a cost effective way to monitor and mitigate ASL interactions.

6.0 Appendices

Appendix 1. List of bycatch fish caught in the West Coast and Gascoyne Bioregions, including reported species name and the closest CAAB (Codes for Australian Aquatic Biota) scientific name. Not all species have CAAB scientific names and codes.

Family	Species Name	Common Name	CAAB Scientific name	CAAB Code
Albulidae	<i>Albula neoguinaica</i>	Bonfish	<i>Albula forsteri</i>	37055001
Antennariidae	<i>Antennarius striatus</i>	Anglerfish, Striped	<i>Antennarius striatus</i>	37210009
Antennariidae	<i>Histrio histrio</i>	Sargassum Fish	<i>Histrio histrio</i>	37210025
Antennariidae	<i>Tathicarpus butleri</i>	Anglerfish, Butler's	<i>Tathicarpus butleri</i>	37210003
Antennariidae	<i>Tetrabrachium sp</i>	Anglerfish, Humpback	<i>Tetrabrachium ocellatum</i>	37210010
Aploactinidae	<i>Adventor elongatus</i>	Velvetfish, Sandpaper	<i>Adventor elongatus</i>	37290004
Aploactinidae	<i>Aploactis aspera</i>	Velvetfish, Dusky	<i>Aploactis aspera</i>	37290005
Aploactinidae	<i>Kanekonia queenslandica</i>	Velvetfish, Queensland	<i>Kanekonia queenslandica</i>	37290007
Aploactinidae	<i>Paraploactis intonsa</i>	Velvetfish, Bearded	<i>Paraploactis intonsa</i>	37290010
Aploactinidae	<i>Peristrominous dolosus</i>	Velvetfish, Cod	<i>Peristrominous dolosus</i>	37290012
Apogonidae	<i>Apogon brevicaudata</i>	Cardinalfish, Many-banded	<i>Apogonichthyoides brevicaudatus</i>	37327005
Apogonidae	<i>Apogon cavitiensis</i>	Cardinalfish, Cavite	<i>Apogon cavitiensis</i>	37327028
Apogonidae	<i>Apogon ellioti</i>	Cardinalfish, Flagfin	<i>Apogon truncatus</i>	37327013
Apogonidae	<i>Apogon fuscomaculatus</i>	Cardinalfish, Brown-spotted	<i>Apogon argyrogaster</i>	37327024
Apogonidae	<i>Apogon monochrous</i>	Cardinalfish, Yellow-eye	<i>Apogon monospilus</i>	37327067
Apogonidae	<i>Apogon nigripinnis</i>	Cardinalfish, Two-eyed	<i>Apogon nigripinnis</i>	37327009
Apogonidae	<i>Apogon poecilopterus</i>	Cardinalfish, Pearly-finned	<i>Apogon poecilopterus</i>	37327026
Apogonidae	<i>Apogon quadrifasciatus</i>	Cardinalfish, Broad-banded	<i>Apogon quadrifasciatus</i>	37327008
Apogonidae	<i>Apogon rueppellii</i>	Cardinalfish, Gobbeguts	<i>Apogon rueppellii</i>	37327040
Apogonidae	<i>Apogon semilineatus</i>	Cardinalfish, Black-tipped	<i>Apogon semilineatus</i>	37327004
Apogonidae	<i>Apogon victoriae</i>	Cardinalfish, Red-Striped	<i>Apogon victoriae</i>	37327079
Apogonidae	<i>Archamia melasma</i>	Cardinalfish, Blackspot	<i>Archamia biguttata</i>	37327084
Apogonidae	<i>Foa brachygramma</i>	Cardinalfish, Weed	<i>Foa brachygramma</i>	37327094
Apogonidae	<i>Siphamia cephalotes</i>	Wood's Siphonfish	<i>Siphamia cephalotes</i>	37327032
Apogonidae	<i>Siphamia roseigaster</i>	Cardinalfish, Pink-breasted Siphonfish	<i>Siphamia roseigaster</i>	37327017
Aracnidae	<i>Aracana aurita</i>	Shaw's Cowfish	<i>Aracana aurita</i>	37466003
Ariidae	<i>Arius sp.</i>	Catfish, Salmon	<i>Arius spp.</i>	37188901
Ariidae	<i>Arius spp</i>	Catfish, Fork-Tailed	<i>Arius spp</i>	37188901
Ariidae	<i>Neoarius berneyi</i>	Catfish, Fork-Tailed	<i>Neoarius berneyi</i>	37188012

Family	Species Name	Common Name	CAAB Scientific name	CAAB Code
Ariidae	<i>Netuma thalassina</i>	Catfish, Giant Salmon	<i>Netuma thalassina</i>	37188001
Arnoglossidae	<i>Arnoglossus meuleri</i>	Meuler's Flounder	<i>Arnoglossus muelleri</i>	37460030
Arnoglossidae	<i>Arnoglossus sp</i>	Arnoglossus	Bothidae	38460000
Arripidae	<i>Arripis georgianus</i>	Herring, Australian	<i>Arripis georgianus</i>	37344001
Arripidae	<i>Arripis truttaceus</i>	Salmon, Australian	<i>Arripis truttaceus</i>	37344004
Atherinidae	<i>Atherinomorus vaigiensis</i>	Hardyhead, Ogilby's	<i>Atherinomorus vaigiensis</i>	37246007
Atherinidae	<i>Hypoatherina temminckii</i>	Hardyhead, Samoan	<i>Hypoatherina temminckii</i>	37246034
Aulopidae	<i>Aulopus purpurissatus</i>	Sergeant Baker	<i>Aulopus purpurissatus</i>	37117001
Aulostomidae	<i>Fistularia commersonii</i>	Flutemouth, Smooth	<i>Fistularia commersonii</i>	37278001
Balistidae	<i>Abalistes stellatus</i>	Triggerfish, Starry	<i>Abalistes stellatus</i>	37465011
Balistidae	<i>Acanthaluteres spilomelanurus</i>	Leatherjacket, Bridled	<i>Acanthaluteres spilomelanurus</i>	37465043
Balistidae	Balistidae	Triggerfishes, general	Balistidae	37465000
Bathysauridae	<i>Saurida tumbil</i>	Grinner, Common	<i>Saurida tumbil</i>	37118028
Batrachoididae	<i>Batrachomoeus dahli</i>	Frogfish, Dahl's	<i>Batrachomoeus dahli</i>	37205007
Batrachoididae	<i>Batrachomoeus trispinosus</i>	Frogfish, Three-spined	<i>Batrachomoeus trispinosus</i>	37205003
Batrachoididae	<i>Halophryne ocellatus</i>	Frogfish, Ocellated	<i>Halophryne ocellatus</i>	37205005
Belonidae	<i>Ablennes hians</i>	Longtom, Barred	<i>Ablennes hians</i>	372335001
Belonidae	Belonidae	Longtoms, general	Belonidae	37235000
Belonidae	<i>Strongylura leiura</i>	Longtom, Slender	<i>Strongylura leiura</i>	372335003
Belonidae	<i>Tylosurus crocodilus</i>	Longtom, Crocodilian	<i>Tylosurus crocodilus</i>	37235005
Berycidae	<i>Centroberyx australis</i>	Snapper, Yellow-eyed Red	<i>Centroberyx australis</i>	37258006
Berycidae	<i>Centroberyx gerrardi</i>	Snapper, Red (Nannygai)	<i>Centroberyx gerrardi</i>	37258004
Berycidae	<i>Centroberyx lineatus</i>	Swallowtail	<i>Centroberyx lineatus</i>	37258005
Blenniidae	<i>Meiacanthus luteus</i>	Blenny, Yellow Fang	<i>Meiacanthus luteus</i>	37408054
Blenniidae	<i>Petroscirtes breviceps</i>	Blenny, Short-headed Sabretooth	<i>Petroscirtes breviceps</i>	37408071
Blenniidae	<i>Xiphiasia setifer</i>	Blenny, Hair-tailed	<i>Xiphiasia setifer</i>	37408001
Bothidae	<i>Arnoglossus aspilos</i>	Flounder, Spotless Lefteye	<i>Arnoglossus aspilos</i>	37460021
Bothidae	<i>Arnoglossus waitei</i>	Flounder, Spotless	<i>Arnoglossus waitei</i>	37460045
Bothidae	<i>Asterorhombus intermedius</i>	Flounder, Intermediate	<i>Asterorhombus intermedius</i>	37460046

Family	Species Name	Common Name	CAAB Scientific name	CAAB Code
Bothidae	<i>Crossorhombus azureus</i>	Flounder, Blue-spotted	<i>Crossorhombus azureus</i>	37460019
Bothidae	<i>Engyprosoon grandisquama</i>	Flounder, Spiny-headed	<i>Engyprosoon grandisquama</i>	37460012
Bothidae	<i>Engyprosoon maldivensis</i>	Flounder, Olive Wide-eye	<i>Engyprosoon maldivensis</i>	37460013
Bothidae	<i>Engyprosoon sp.</i>	Flounder	Bothidae	37460000
Bothidae	<i>Grammatobothus pennatus</i>	Flounder, Pennant	<i>Grammatobothus pennatus</i>	37460016
Bothidae	<i>Grammatobothus polyophthalmus</i>	Flounder, Three-spot	<i>Grammatobothus polyophthalmus</i>	37460010
Bothidae	<i>Pseudorhombus argus</i>	Flounder, Peacock	<i>Pseudorhombus argus</i>	37460038
Bothidae	<i>Pseudorhombus arsius</i>	Flounder, Large-toothed	<i>Pseudorhombus arsius</i>	37460009
Bothidae	<i>Pseudorhombus diplospilus</i>	Flounder, Twinspot	<i>Pseudorhombus diplospilus</i>	37460015
Bothidae	<i>Pseudorhombus elevatus</i>	Flounder, Deep-bodied	<i>Pseudorhombus elevatus</i>	37460008
Bothidae	<i>Pseudorhombus jenynsii</i>	Flounder, Small-toothed	<i>Pseudorhombus jenynsii</i>	37460002
Bothidae	<i>Pseudorhombus spinosus</i>	Flounder, Spiny	<i>Pseudorhombus spinosus</i>	37460011
Bregmacerotidae	<i>Bregmaceros sp</i>	Codlet	Bregmacerotidae	37225000
Bythitidae	<i>Monothrix mizolepis</i>	Eel, Smalleye Cuskeel	<i>Didymothallus mizolepis</i>	37228032
Caesionidae	Caesionidae	Fusiliers, Jobfishes	Caesionidae	37346000
Caesionidae	<i>Symphorus nematophorus</i>	Chinaman Fish	<i>Symphorus nematophorus</i>	37346017
Callionymidae	<i>Callionymus goodladi</i>	Stinkfish, Goodlad's		
Callionymidae	<i>Callionymus grossi</i>	Stinkfish, Gross's	<i>Calliurichthys grossi</i>	37427007
Callionymidae	<i>Dactylopus dactylopus</i>	Dragonet, Fingered	<i>Dactylopus dactylopus</i>	37427005
Callionymidae	<i>Pseudocalliurichthys goodladi</i>	Goodlads stinkfish	<i>Pseudocalliurichthys goodladi</i>	37427006
Callionymidae	<i>Repomucenus calcaratus</i>	Stinkfish, Spotted	<i>Repomucenus calcaratus</i>	37427015
Callionymidae	<i>Repomucenus sublaevis</i>	Stinkfish, Multifilament	<i>Repomucenus sublaevis</i>	37427010
Callionymidae	<i>Synchiropus rameus</i>	Dragonet, High-finned	<i>Orbonymus rameus</i>	37427009
Callionymidae	<i>Dactylopus dactylopus</i>	Fingered Dragonet	<i>Dactylopus dactylopus</i>	37427005
Callyspongiidae	<i>Callyspongia sp.</i>	Staircase sponge	<i>Callyspongiidae</i>	10098000
Carangidae	<i>Alectis indicus</i>	Trevally, Diamond	<i>Alectis indica</i>	37337038
Carangidae	<i>Alepes apercna</i>	Trevally, Small Mouth Scad	<i>Alepes apercna</i>	37337010
Carangidae	<i>Alepes djedaba</i>	Trevally, Shrimp Scad		
Carangidae	<i>Atule mate</i>	Scad, Yellowtail	<i>Atule mate</i>	37337024

Family	Species Name	Common Name	CAAB Scientific name	CAAB Code
Carangidae	<i>Carangoides chrysophrys</i>	Trevally, Club-nosed	<i>Carangoides chrysophrys</i>	37337011
Carangidae	<i>Carangoides fulvoguttatus</i>	Trevally, Gold-Spotted/Turrum	<i>Carangoides fulvoguttatus</i>	37337037
Carangidae	<i>Carangoides gymnotethus</i>	Trevally, Bludger	<i>Carangoides gymnotethus</i>	37337022
Carangidae	<i>Carangoides hedlandensis</i>	Trevally, Bump-nosed	<i>Carangoides hedlandensis</i>	37337042
Carangidae	<i>Carangoides malabaricus</i>	Trevally, Malabar	<i>Carangoides malabaricus</i>	37337005
Carangidae	<i>Carangoides talamparooides</i>	Trevally, White-tongued	<i>Carangoides talamparooides</i>	37337043
Carangidae	<i>Carangoides uii</i>	Trevally, Japanese	<i>Carangoides caeruleopinnatus</i>	37337902
Carangidae	<i>Caranx bucculentus</i>	Trevally, Blue-spotted	<i>Caranx bucculentus</i>	37337016
Carangidae	<i>Caranx ignobilis</i>	Trevally, Giant	<i>Caranx ignobilis</i>	37337027
Carangidae	<i>Caranx lugubris</i>	Trevally, Black	<i>Caranx lugubris</i>	37337053
Carangidae	<i>Caranx papuensis</i>	Trevally, Brassy	<i>Caranx papuensis</i>	37337064
Carangidae	<i>Caranx sexfasciatus</i>	Trevally, Big-Eye	<i>Caranx sexfasciatus</i>	37337039
Carangidae	<i>Caranx tille</i>	Trevally, Tille	<i>Caranx tille</i>	37337049
Carangidae	<i>Decapterus macarellus</i>	Scad, Mackerel	<i>Decapterus macarellus</i>	37337055
Carangidae	<i>Decapterus russelli</i>	Trevally, Russell's Mackerel Scad	<i>Decapterus russelli</i>	37337023
Carangidae	<i>Elegatis bipinnulata</i>	Runner, Rainbow	<i>Elegatis bipinnulata</i>	37337029
Carangidae	<i>Gnathanodon speciosus</i>	Trevally, Golden	<i>Gnathanodon speciosus</i>	37337012
Carangidae	<i>Megalaspis cordyla</i>	Scad, Finny	<i>Megalaspis cordyla</i>	37337028
Carangidae	<i>Parastromateus niger</i>	Pomfret, Black	<i>Parastromateus niger</i>	37337072
Carangidae	<i>Pseudocaranx dentex</i>	Trevally, Skipjack/Silver	<i>Pseudocaranx dentex</i>	37337062
Carangidae	<i>Pseudocaranx wrighti</i>	Sand Trevally	<i>Pseudocaranx wrighti</i>	37337063
Carangidae	<i>Pseudocaranx wrighti</i>	Trevally, Sand	<i>Pseudocaranx wrighti</i>	37337063
Carangidae	<i>Pseudocaranx dentex</i>	Skipjack Trevally	<i>Pseudocaranx dentex</i>	37337062
Carangidae	<i>Scomberoides commersonianus</i>	Queenfish, Talang	<i>Scomberoides commersonianus</i>	37337032
Carangidae	<i>Scomberoides spp</i>	Queenfishes, general	<i>Scomberoides spp</i>	37337905
Carangidae	<i>Selar boops</i>	Trevally, Oxeye Scad	<i>Selar boops</i>	37337008
Carangidae	<i>Selar crumenophthalmops</i>	Scad, Purse Eyed	<i>Selar crumenophthalmus</i>	37337009
Carangidae	<i>Selaroides leptolepis</i>	Trevally, Smooth-tailed	<i>Selaroides leptolepis</i>	37337015
Carangidae	<i>Seriola dumerili</i>	Greater amberjack	<i>Seriola dumerili</i>	37337025

Family	Species Name	Common Name	CAAB Scientific name	CAAB Code
Carangidae	<i>Seriola hippos</i>	Samson Fish/Sea Kingfish	<i>Seriola hippos</i>	37337007
Carangidae	<i>Seriola lalandi</i>	Kingfish, Yellowtail	<i>Seriola lalandi</i>	37337006
Carangidae	<i>Seriolina nigrofasciata</i>	Kingfish, Black-Banded	<i>Seriolina nigrofasciata</i>	37337014
Carangidae	<i>Seriolina nigrofasciata</i>	Trevally, Black-banded Kingfish	<i>Seriolina nigrofasciata</i>	37337014
Carangidae	<i>Trachinotus bailloni</i>	Dart, Black-Spotted	<i>Trachinotus bailloni</i>	37337074
Carangidae	<i>Trachinotus botla</i>	Dart, Common	<i>Trachinotus botla</i>	37337066
Carangidae	<i>Trachinotus spp</i>	Dart, general	<i>Trachinotus spp</i>	37337904
Carangidae	<i>Trachurus novaezelandiae</i>	Trevally, Yellowtail	<i>Trachurus novaezelandiae</i>	37337003
Carangidae	<i>Ulua mentalis</i>	Trevally, Cale Cale	<i>Ulua mentalis</i>	37337048
Carcharhinidae	Carcharhinidae	Shark, Whalers, general	Carcharhinidae	37018000
Carcharhinidae	<i>Carcharhinus amblyrhynchos</i>	Shark, Grey Reef	<i>Carcharhinus amblyrhynchos</i>	37018030
Carcharhinidae	<i>Carcharhinus brachyurus</i>	Shark, Bronze Whaler	<i>Carcharhinus brachyurus</i>	37018001
Carcharhinidae	<i>Carcharhinus leucas</i>	Shark, Bull	<i>Carcharhinus leucas</i>	37018021
Carcharhinidae	<i>Carcharhinus melanopterus</i>	Shark, Black-tip Reef	<i>Carcharhinus melanopterus</i>	37018036
Carcharhinidae	<i>Carcharhinus obscurus</i>	Shark, Dusky	<i>Carcharhinus obscurus</i>	37018003
Carcharhinidae	<i>Carcharhinus plumbeus</i>	Shark, Thickskin/Sandbar	<i>Carcharhinus plumbeus</i>	37018007
Carcharhinidae	<i>Carcharhinus taurus</i>	Shark, Grey Nurse	<i>Carcharias taurus</i>	37008001
Carcharhinidae	<i>Carcharhinus tilstoni</i>	Shark, Black Tip Whaler	<i>Carcharhinus tilstoni</i>	37018014
Carcharhinidae	<i>Galeocerdo cuvier</i>	Shark, Tiger	<i>Galeocerdo cuvier</i>	37018022
Carcharhinidae	<i>Hemigaleus microstoma</i>	Shark, Weasel	<i>Hemigaleus australiensis</i>	37018020
Carcharhinidae	<i>Loxodon macrorhinus</i>	Sliteye shark	<i>Loxodon macrorhinus</i>	37018005
Carcharhinidae	<i>Negaprion acutidens</i>	Shark, Lemon	<i>Negaprion acutidens</i>	37018029
Carcharhinidae	<i>Prionace glauca</i>	Shark, Blue (Blue Whaler)	<i>Prionace glauca</i>	37018004
Carcharhinidae	<i>Rhizoprionodon acutus</i>	Shark, Milk	<i>Rhizoprionodon acutus</i>	37018006
Carcharhinidae	<i>Triaenodon obesus</i>	Shark, Whitetip	<i>Triaenodon obesus</i>	37018038
Centriscidae	<i>Centriscus scutatus</i>	Razorfish, Grooved	<i>Centriscus scutatus</i>	37280001
Centropomidae	<i>Hypopterus macropterus</i>	Spiky Bass	<i>Hypopterus macropterus</i>	37310007
Centropomidae	<i>Psammoperca waigiensis</i>	Sand Bass	<i>Psammoperca waigiensis</i>	37310001
Cepolidae	<i>Acanthocheila abbreviata</i>	Bandfish	<i>Acanthocheila abbreviata</i>	37380002

Family	Species Name	Common Name	CAAB Scientific name	CAAB Code
Chaetodontidae	<i>Chaetodon assarius</i>	Butterflyfish, Western	<i>Chaetodon assarius</i>	37365012
Chaetodontidae	<i>Chelmon marginalis</i>	Coralfish, Margined	<i>Chelmon marginalis</i>	37365007
Chaetodontidae	<i>Coradion chrysozonus</i>	Coralfish, Orange-banded	<i>Coradion chrysozonus</i>	37365004
Chaetodontidae	<i>Parachaetodon ocellatus</i>	Coralfish, Ocellate	<i>Parachaetodon ocellatus</i>	37365003
Cheilodactylidae	<i>Cheilodactylus gibbosus</i>	Morwong, Crested	<i>Cheilodactylus gibbosus</i>	37377010
Cheilodactylidae	<i>Cheilodactylus rubrolabiatus</i>	Morwong, Red-lipped (Red-band)	<i>Cheilodactylus rubrolabiatus</i>	37377012
Cheilodactylidae	<i>Cheilodactylus rubrolabiatus</i>	Red-lipped Morwong	<i>Cheilodactylus rubrolabiatus</i>	37377012
Cheilodactylidae	<i>Dactylophora nigricans</i>	Dusky Morwong	<i>Dactylophora nigricans</i>	37377005
Cheilodactylidae	<i>Dactylophora nigricans</i>	Morwong, Dusky	<i>Dactylophora nigricans</i>	37377005
Cheilodactylidae	<i>Nemadactylus douglasii</i>	Morwong, Blue	<i>Nemadactylus douglasii</i>	37377002
Cheilodactylidae	<i>Nemadactylus valenciennesi</i>	Queen Snapper	<i>Nemadactylus valenciennesi</i>	37377004
Cheilodactylidae	<i>Nemadactylus valenciennesi</i>	Snapper, Queen (Blue Morwong)	<i>Nemadactylus valenciennesi</i>	37377004
Chirocentridae	<i>Chirocentrus dorab</i>	Herring, Wolf	<i>Chirocentrus dorab</i>	37087001
Chironemidae	<i>Threpterus maculosus</i>	Silver Spot	<i>Threpterus maculosus</i>	37375002
Clinidae	<i>Cristiceps australis</i>	Southern Crested Weedfish	<i>Cristiceps australis</i>	37416007
Clinidae	<i>Heteroclinus roseus</i>	Weedfish, Rosy	<i>Heteroclinus roseus</i>	37416023
Clinidae	<i>Cristiceps aurantiacus</i>	Yellow-crested Weedfish	<i>Cristiceps aurantiacus</i>	37416017
Clupeidae	<i>Escualosa thoracata</i>	Sardine, White	<i>Escualosa thoracata</i>	37085021
Clupeidae	<i>Herklotsichthys blackburni</i>	Herring, Blackburn's	<i>Herklotsichthys blackburni</i>	37085022
Clupeidae	<i>Herklotsichthys collettei</i>	Herring, Collette's	<i>Herklotsichthys collettei</i>	37085031
Clupeidae	<i>Herklotsichthys koningsbergi</i>	Herring, Koningsberger's	<i>Herklotsichthys koningsbergi</i>	37085007
Clupeidae	<i>Herklotsichthys lippa</i>	Herring, Australian Spotted	<i>Herklotsichthys lippa</i>	37085008
Clupeidae	<i>Herklotsichthys lippa</i>	Herring; Australian Spotted	<i>Herklotsichthys lippa</i>	37085008
Clupeidae	<i>Hyperlophus vittatus</i>	Sandy sprat	<i>Hyperlophus vittatus</i>	37085005
Clupeidae	<i>Nematalosa vlaminghi</i>	Herring, Perth	<i>Nematalosa vlaminghi</i>	37085017
Clupeidae	<i>Sardina pilchardus</i>	Pilchard (Mullie)	<i>Sardina pilchardus</i>	37085793
Clupeidae	<i>Sardinella gibbosa</i>	Sardine, Gold-striped	<i>Sardinella gibbosa</i>	37085013
Clupeidae	<i>Sardinella lemuru</i>	Sardine, Scaly Mackerel	<i>Sardinella lemuru</i>	37085018
Clupeidae	<i>Sardinella sp.</i>	Sardine	Clupeidae	37085000

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Clupeidae	<i>Sardinops neopilchardus</i>	Pilchard (Mullie)	<i>Sardinops neopilchardus</i>	37085002
Clupeidae	<i>Spratelloides robustus</i>	Blue sprat	<i>Spratelloides robustus</i>	37085003
Clupeidae	<i>Spratelloides?</i>	Sprat	Clupeidae	37085000
Clupeidae	<i>Stolephorus indicus</i>	Anchovy, Indian	<i>Stolephorus indicus</i>	37086006
Congridae	<i>Ariosoma</i> sp.	Eel, Conger	Congridae	37067000
Congridae	<i>Conger cinereus</i>	Eel Conger, Black-edged	<i>Conger cinereus</i>	37067015
Congridae	<i>Conger verreauxi</i>	Eel Conger, Southern	<i>Conger verreauxi</i>	37067007
Congridae	<i>Gnathopis habenatus</i>	Eel, Silver Conger	<i>Gnathopis longicaudus</i>	37067002
Congridae	<i>Uroconger lepturus</i>	Eel, Longtail Conger	<i>Uroconger lepturus</i>	37067021
Congrogadidae	<i>Congrogadus spinifer</i>	Eel-blenny, Spiny	<i>Congrogadus spinifer</i>	37411001
Coryphaenidae	<i>Coryphaena hippurus</i>	Dolphinfish, Common/Mahi Mahi	<i>Coryphaena hippurus</i>	37338001
Cynoglossidae	<i>Cynoglossus maculipinnis</i>	Sole, McCulloch's Tongue	<i>Cynoglossus maculipinnis</i>	37463003
Cynoglossidae	<i>Cynoglossus</i> sp.	Sole, Tongue	Cynoglossidae	37463000
Cynoglossidae	<i>Paraplagusia bilineata</i>	Sole, Patterned Tongue	<i>Paraplagusia bilineata</i>	37463001
Cynoglossidae	<i>Cynoglossus broadhursti</i>	Southern Tongue Sole	<i>Cynoglossus broadhursti</i>	37463015
Cynoglossidae	<i>Paraplagusia unicolor</i>	Lemon Tongue Sole	<i>Paraplagusia bilineata</i>	37463001
Dactylopteridae	<i>Dactyloptena sp.</i>	Searobin	Dactylopteridae	37308000
Dactylopteridae	<i>Dactyloptena orientalis</i>	Searobin, Oriental	<i>Dactyloptena orientalis</i>	37308004
Dactylopteridae	<i>Dactyloptena papilio</i>	Searobin, Sharp-eared	<i>Dactyloptena papilio</i>	37308001
Dasyatidae	<i>Dasyatis brevicaudata</i>	Stingray, Smooth	<i>Dasyatis brevicaudata</i>	37035001
Dasyatidae	<i>Dasyatis kuhlii</i>	Stingray, Blue-spotted	<i>Neotrygon kuhlii</i>	37035004
Dasyatidae	<i>Dasyatis leylandi</i>	Stingray, Brown Reticulated	<i>Neotrygon leylandi</i>	37035013
Dasyatidae	<i>Himantura</i> sp.	Stingray, Coachwhip	<i>Himantura toshi</i>	37035022
Dasyatidae	<i>Himantura toshi</i>	Whipray, Black-spotted	<i>Himantura toshi</i>	37035022
Dasyatidae	<i>Himantura uarnak</i>	Whipray, Reticulate/Coachwhip Ray	<i>Himantura uarnak</i>	37035003
Dasyatidae	<i>Taeniura meyeri</i>	Stingray, Black-blotched	<i>Taeniura meyeri</i>	37035017
Dinolestidae	<i>Dinolestes lewini</i>	Pike, Long-finned	<i>Dinolestes lewini</i>	37327002
Diodontidae	<i>Allomycterus pilatus</i>	Porcupinefish, Small-Spined	<i>Allomycterus pilatus</i>	37469002
Diodontidae	<i>Cyclichthys orbicularis</i>	Porcupinefish, Short-spined	<i>Cyclichthys orbicularis</i>	37469007

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Diodontidae	<i>Diodon nichthemerus</i>	Globe Fish	<i>Diodon nichthemerus</i>	37469001
Diodontidae	<i>Tragulichthys jaculiferus</i>	Porcupinefish, Long-spined	<i>Tragulichthys jaculiferus</i>	37469004
Diodontidae	<i>Allomycterus pilatus</i>	Small-spined Porcupine Fish	<i>Allomycterus pilatus</i>	37469002
Diodontidae	<i>Diodon nichthemerus</i>	Globefish	<i>Diodon nichthemerus</i>	37469001
Echeneidae	<i>Remora remora</i>	Remora	<i>Remora remora</i>	37336002
Echeneidae	<i>Echeneis naucrates</i>	Live sharksucker	<i>Echeneis naucrates</i>	37336001
Echeneidae	<i>Remora remora</i>	Common Remora	<i>Remora remora</i>	37336002
Elopidae	<i>Elops machnata</i>	Herring, Giant	<i>Elops machnata</i>	37053003
Elopidae	<i>Megalops cyprinoides</i>	Herring, Oxeye	<i>Megalops cyprinoides</i>	37054001
Engaulidae	<i>Engraulis australis</i>	Anchovy, Australian	<i>Engraulis australis</i>	37086001
Engraulidae	<i>Engraulis australis</i>	australian anchovy	<i>Engraulis australis</i>	37086001
Engraulidae	<i>Stolephorus insularis</i>	Anchovy, Hardenberg's	<i>Stolephorus spp</i>	37086902
Engraulidae	<i>Thryssa hamiltonii</i>	Anchovy, Hamilton's	<i>Thryssa hamiltonii</i>	37086005
Engraulidae	<i>Thryssa setirostris</i>	Anchovy, Longjaw	<i>Thryssa setirostris</i>	37086004
Engraulidae	<i>Thryssa spinidens</i>	Anchovy, Bengal	<i>Thryssa spp</i>	37086903
Enoplosidae	<i>Enoplosus armatus</i>	Old Wife	<i>Enoplosus armatus</i>	37366001
Ephippidae	<i>Drepane punctata</i>	Sicklefish	<i>Drepane punctata</i>	37362005
Ephippidae	<i>Platax batavianus</i>	Batfish, Hump-headed	<i>Platax batavianus</i>	37362002
Ephippidae	<i>Platax teira</i>	Batfish, Teira	<i>Platax teira</i>	37362004
Ephippidae	<i>Zabidius novemaculeatus</i>	Batfish, Short-finned	<i>Zabidius novemaculeatus</i>	37362003
Exocoetidae	<i>Parexocoetus mento</i>	Flyingfish, African	<i>Parexocoetus mento</i>	37233003
Exocoetidae	<i>Cheilopogon westraliensis(ms)</i>	Flying Fish, West Australian	Exocoetidae	37233000
Fistulariidae	<i>Fistularia commersonii</i>	Flutemouth, Smooth	<i>Fistularia commersonii</i>	37278001
Fistulariidae	Fistulariidae	Flutemouths, general	<i>Fistularia spp.</i>	37278900
Gempylidae	<i>Thyrsites atun</i>	Barracouta	<i>Thyrsites atun</i>	37439001
Gerreidae	<i>Gerres oyena</i>	Silverbiddy, Common	<i>Gerres oyena</i>	37349004
Gerreidae	<i>Gerres subfasciatus</i>	Roach/Banded Silver Biddy	<i>Gerres subfasciatus</i>	37349005
Gerreidae	<i>Gerres subfasciatus</i>	Silver Biddy, Banded [Roach]	<i>Gerres subfasciatus</i>	37349005
Gerreidae	<i>Parequula melbournensis</i>	Silverbelly, Southern	<i>Parequula melbournensis</i>	37349001

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Gerreidae	<i>Pentaprion longimanus</i>	Silver Biddy, Long-finned	<i>Pentaprion longimanus</i>	37349002
Gerridae	<i>Gerres filamentosus</i>	Silver Biddy, Whipfin	<i>Gerres filamentosus</i>	37349003
Gerridae	<i>Gerres subfasciatus</i>	Roach	<i>Gerres subfasciatus</i>	37349005
Ginglymostomatidae	<i>Nebrius ferrugineus</i>	Shark, Tawny Nurse	<i>Nebrius ferrugineus</i>	37013010
Girellidae	<i>Girella tephraeops</i>	Blackfish, Western Rock (Chad)	<i>Girella tephraeops</i>	37361017
Girellidae	<i>Girella zebra</i>	Zebra Fish	<i>Girella zebra</i>	37361008
Glaucosomatidae	<i>Glaucosoma buergeri</i>	Perch, Pearl (Deepsea Jewfish)	<i>Glaucosoma buergeri</i>	37320001
Glaucosomatidae	<i>Glaucosoma hebraicum</i>	Dhuffish, Western Australian	<i>Glaucosoma hebraicum</i>	37320004
Glaucosomatidae	<i>Glaucosoma magnificum</i>	Threadfin, Pearl-perch	<i>Glaucosoma magnificum</i>	37320002
Glaucosomatidae	<i>Glaucosoma burgeri</i>	Deepsea jewfish	<i>Glaucosoma burgeri</i>	37320001
Gobiidae	<i>Amblyeleotris</i> sp.	Shrimpgoby	Gobiidae	37428000
Gobiidae	<i>Cryptocentrus pavoninoides</i>	Shrimpgoby, Yellow-barred	Gobiidae	37428000
Gobiidae	<i>Oplopomus caninoides</i>	Goby, Robust	<i>Oplopomus caninoides</i>	37428203
Gobiidae	<i>Parachaeturichthys polynema</i>	Goby, Taileye	<i>Parachaeturichthys polynema</i>	37428211
Gobiidae	<i>Priolepis semidoliatus</i>	Goby, Head-barred	<i>Priolepis semidoliata</i>	37428011
Gobiidae	<i>Yongeichthys nebulosus</i>	Goby, Shadow	<i>Yongeichthys nebulosus</i>	37428001
Goniasteridae	<i>Stellaster inspinosus</i>	seastar	<i>Stellaster inspinosus</i>	25122027
Gonorynchidae	<i>Gonorynchus greyi</i>	Salmon, Beaked	<i>Gonorynchus greyi</i>	37141001
Gymnuridae	<i>Gynnura australis</i>	Ray, Rat-tailed/Butterfly	<i>Gynnura australis</i>	37037001
Haemulidae	<i>Diagramma labiosum</i>	Sweetlips, Painted	<i>Diagramma labiosum</i>	37350003
Haemulidae	<i>Diagramma pictum</i>	Sweetlips, Painted	<i>Diagramma labiosum</i>	37350003
Haemulidae	<i>Gymnocranius grandoculis</i>	Seabream, Robinson's	<i>Gymnocranius grandoculis</i>	37351005
Haemulidae	<i>Plectorhinchus flavomaculatus</i>	Sweetlips, Gold-Spotted	<i>Plectorhinchus flavomaculatus</i>	37350007
Haemulidae	<i>Plectorhinchus multivittatum</i>	Sweetlips, Many-Lined	<i>Plectorhinchus multivittatus</i>	37350018
Haemulidae	<i>Pomadasys kaakan</i>	Javelinfish, Spotted	<i>Pomadasys kaakan</i>	37350011
Haemulidae	<i>Pomadasys maculatus</i>	Javelinfish, Blotched	<i>Pomadasys maculatus</i>	37350002
Haemulidae	<i>Pomadasys spp</i>	Javelinfishes, general	<i>Pomadasys spp</i>	37350902
Harpodontidae	<i>Saurida undosquamis</i>	Lizardfish, Large-scaled Grinner	<i>Saurida undosquamis</i>	37118001
Harpodontidae	<i>Synodus dermatogenys</i>	Lizardfish, Banded	<i>Synodus dermatogenys</i>	37118003

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Harpodontidae	<i>Synodus hoshinonis</i>	Lizardfish, Black-shouldered	<i>Synodus hoshinonis</i>	37118010
Harpodontidae	<i>Trachinocephalus myops</i>	Lizardfish, Painted Grinner	<i>Trachinocephalus myops</i>	37118002
Hemiramphidae	<i>Arrhamphus sclerolepis</i>	Garfish, Snub-Nosed	<i>Arrhamphus sclerolepis</i>	37234006
Hemiramphidae	<i>Euleptorhamphus viridis</i>	Garfish, Long-finned	<i>Euleptorhamphus viridis</i>	37234015
Hemiramphidae	Hemiramphidae	Garfishes	Hemiramphidae	37234000
Hemiramphidae	<i>Hemiramphus robustus</i>	Garfish, Robust	<i>Hemiramphus robustus</i>	37234013
Hemiramphidae	<i>Hyporhamphus affinis</i>	Garfish, Tropical	<i>Hyporhamphus affinis</i>	37234016
Hemiramphidae	<i>Hyporhamphus melanochir</i>	Garfish, Southern Sea	<i>Hyporhamphus melanochir</i>	37234001
Hemiscyllidae	<i>Chiloscyllium punctatum</i>	Catshark, Brown-banded	<i>Chiloscyllium punctatum</i>	37013008
Heterodontidae	<i>Heterodontus portusjacksoni</i>	Shark, Port Jackson	<i>Heterodontus portusjacksoni</i>	37007001
Hexanchidae	<i>Notorynchus cepedianus</i>	Broadnose Sevengill	<i>Notorynchus cepedianus</i>	37005002
Hypnidae	<i>Hypnos monopterygium</i>	Numbfish	<i>Hypnos monopterygium</i>	37028001
Hypnidae	<i>Narcine westraliensis</i>	Numbfish, Banded	<i>Lagocephalus sceleratus</i>	37467007
Hypnidae	<i>Hypnos monopterygium</i>	Numbfish	<i>Narcine westraliensis</i>	37028005
Istiophoridae	<i>Istiophorus platypterus</i>	Sailfish, Indo-Pacific	<i>Istiophorus platypterus</i>	37444005
Istiophoridae	<i>Makaira indica</i>	Marlin, Black	<i>Makaira indica</i>	37444006
Istiophoridae	<i>Makaira mazara</i>	Marlin, Blue (Indo-Pacific)	<i>Makaira nigricans</i>	37444003
Istiophoridae	<i>Tetrapturus audax</i>	Marlin, Striped	<i>Tetrapturus audax</i>	37444002
Kyphosidae	<i>Girella tephraeops</i>	Blackfish, Western Rock (Chad)	<i>Girella tephraeops</i>	37361017
Kyphosidae	<i>Girella zebra</i>	Zebra Fish	<i>Girella zebra</i>	37361008
Kyphosidae	<i>Kyphosus cornelii</i>	Buffalo Bream, Western	<i>Kyphosus cornelii</i>	37361012
Kyphosidae	<i>Kyphosus sydneyanus</i>	Buffalo Bream, Common (Silver Drummer)	<i>Kyphosus sydneyanus</i>	37361001
Kyphosidae	<i>Microcanthus strigatus</i>	Footballer/Stripy	<i>Microcanthus strigatus</i>	37361005
Kyphosidae	<i>Scorpis aequipinnis</i>	Sweep, Sea	<i>Scorpis aequipinnis</i>	37361004
Kyphosidae	<i>Tilodon sexfasciatus</i>	Moonlighter	<i>Tilodon sexfasciatus</i>	37361003
Labridae	<i>Achoerodus gouldii</i>	Groper, Western Blue	<i>Achoerodus gouldii</i>	37384002
Labridae	<i>Austrolabrus maculatus</i>	Wrasse, Black-spotted	<i>Austrolabrus maculatus</i>	37384025
Labridae	<i>Bodianus bilunulatus</i>	Pigfish, Saddleback	<i>Bodianus bilunulatus</i>	37384054

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Labridae	<i>Bodianus frenchii</i>	Foxfish, Western	<i>Bodianus frenchii</i>	37384057
Labridae	<i>Bodianus spp.</i>	Pigfishes, general	<i>Bodianus spp.</i>	37384904
Labridae	<i>Bodianus vulpinus</i>	Pigfish, Blackspot	<i>Bodianus vulpinus</i>	37384001
Labridae	<i>Cheilinus undulatus</i>	Wrasse, Hump Headed Maori	<i>Cheilinus undulatus</i>	37384038
Labridae	<i>Choerodon cauteroma</i>	Tuskfish, Blue Spotted	<i>Choerodon cauteroma</i>	37384005
Labridae	<i>Choerodon cephalotes</i>	Tuskfish, Purple	<i>Choerodon cephalotes</i>	37384004
Labridae	<i>Choerodon cyanodus</i>	Tuskfish, Blue	<i>Choerodon cyanodus</i>	37384072
Labridae	<i>Choerodon rubescens</i>	Groper, Baldchin	<i>Choerodon rubescens</i>	37384039
Labridae	<i>Choerodon schoenleinii</i>	Tuskfish, Blackspot (Blue Bone)	<i>Choerodon schoenleinii</i>	37384010
Labridae	<i>Choerodon venustus</i>	Tuskfish, Venus	<i>Choerodon venustus</i>	37384042
Labridae	<i>Choerodon vitta</i>	Tuskfish, Redstripe	<i>Choerodon vitta</i>	37384006
Labridae	Commercial group: tuskfish	Tuskfish, general	<i>Choerodon spp</i>	37384902
Labridae	<i>Coris auricularis</i>	Western King Wrasse	<i>Coris auricularis</i>	37384088
Labridae	<i>Coris auricularis</i>	Wrasse, Western King	<i>Coris auricularis</i>	37384088
Labridae	<i>Halichoeres brownfieldi</i>	Wrasse, Brownfield's	<i>Halichoeres brownfieldi</i>	37384108
Labridae	Labridae	Wrasse		37384000
Labridae	<i>Notolabrus parilus</i>	Wrasse, Brown-Spotted	<i>Notolabrus parilus</i>	37384022
Labridae	<i>Ophthalmolepis lineolatus</i>	Wrasse, Maori	<i>Ophthalmolepis lineolatus</i>	37384040
Labridae	<i>Pictilabrus laticlavius</i>	Wrasse, Senator	<i>Pictilabrus laticlavius</i>	37384020
Labridae	<i>Pseudolabrus biserialis</i>	Wrasse, Red Banded	<i>Pseudolabrus biserialis</i>	37384149
Labridae	<i>Pseudolabrus parilus</i>	Wrasse, Brown-Spotted	<i>Notolabrus parilus</i>	37384022
Labridae	<i>Pteragogus enneacanthus</i>	Wrasse, Flagfin	<i>Pteragogus enneacanthus</i>	37384153
Labridae	<i>Suezichthys ayingi</i>	Wrasse, Crimson Cleaner	<i>Suezichthys ayingi</i>	37384159
Labridae	<i>Suezichthys cyanolaemus</i>	Wrasse, Blue-throated rainbow	<i>Suezichthys cyanolaemus</i>	37384161
Labridae	<i>Suezichthys soelae</i>	Wrasse, Soela	<i>Suezichthys soelae</i>	37384026
Labridae	<i>Thalassoma lunare</i>	Wrasse, Moon	<i>Thalassoma lunare</i>	37384167
Labridae	<i>Thalassoma purpureum</i>	Wrasse, Red & Green	<i>Thalassoma purpureum</i>	37384169
Labridae	<i>Thalassoma septemfasciata</i>	Wrasse, Seven-banded	<i>Thalassoma septemfasciatum</i>	37384171
Laganidae	<i>Peronella lesueurii</i>	sand dollar	<i>Peronella lesueurii</i>	25266005

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Lamnidae	<i>Carcharodon carcharias</i>	White Shark	<i>Carcharodon carcharias</i>	37010003
Lamnidae	<i>Isurus oxyrinchus</i>	Shark, Shortfin Mako	<i>Isurus oxyrinchus</i>	37010001
Latidae	<i>Psammoperca waigiensis</i>	Bass, Sand	<i>Psammoperca waigiensis</i>	37310001
Leignathidae	<i>Gazza minuta</i>	Ponyfish, Toothpony	<i>Gazza minuta</i>	37341007
Leignathidae	<i>Gerres filamentosus</i>	Silver Biddy, Whipfin	<i>Gerres filamentosus</i>	37349003
Leignathidae	<i>Leignathus bindus</i>	Ponyfish, Orangetin	<i>Photopectoralis bindus</i>	37341002
Leignathidae	<i>Leignathus decorus</i>	Ponyfish, Yellow-finned	<i>Nuchequula gerreoides</i>	37341016
Leignathidae	<i>Leignathus equulus</i>	Ponyfish, Common	<i>Leignathus equulus</i>	37341014
Leignathidae	<i>Leignathus fasciatus</i>	Ponyfish, Striped/banded	<i>Leignathus fasciatus</i>	37341009
Leignathidae	<i>Leignathus leuciscus</i>	Ponyfish, Whipfin	<i>Leignathus leuciscus</i>	37341005
Leignathidae	<i>Leignathus lonispinis</i>	Ponyfish, Smithurst's	<i>Leignathus longispinis</i>	37341004
Leignathidae	<i>Leignathus moretonensis</i>	Ponyfish, Zig-Zag	<i>Leignathus moretonensis</i>	37341012
Leignathidae	<i>Leignathus smithursti</i>	Ponyfish, Smithurst's	<i>Leignathus longispinis</i>	37341004
Leignathidae	<i>Parequula melbournensis</i>	Southern silverbelly	<i>Parequula melbournensis</i>	37349001
Leignathidae	<i>Secutor insidiator</i>	Ponyfish, Pugnose	<i>Secutor insidiator</i>	37341006
Leignathidae	<i>Secutor ruconis</i>	Ponyfish, Pugnose	<i>Secutor ruconis</i>	37341015
Lethrinidae	<i>Lethrinus laticaudis</i>	Emperor, Blue-lined (Black Snapper)	<i>Lethrinus laticaudis</i>	37351006
Lethrinidae	<i>Lethrinus sp.</i>	Emperor, Blue lined	<i>Lethrinus sp.</i>	37351001
Lethrinidae	<i>Gymnocranius elongatus</i>	Seabream, Swallowtail	<i>Gymnocranius elongatus</i>	37351010
Lethrinidae	Lethrinidae	Emperors, general	<i>Lethrinidae</i>	37351000
Lethrinidae	<i>Lethrinus atkinsoni</i>	Emperor, Yellow-Tailed	<i>Lethrinus atkinsoni</i>	37351013
Lethrinidae	<i>Lethrinus genivittatus</i>	Emperor, Threadfin	<i>Lethrinus genivittatus</i>	37351002
Lethrinidae	<i>Lethrinus hutchinsi (MS)</i>	Emperor, Blue-Spotted	<i>Lethrinus sp.</i>	37351001
Lethrinidae	<i>Lethrinus laticaudis</i>	Emperor, Grass/Black Snapper	<i>Lethrinus laticaudis</i>	37351006
Lethrinidae	<i>Lethrinus lentjan</i>	Emperor, Pink-Eared (Purple-Headed)	<i>Lethrinus lentjan</i>	37351007
Lethrinidae	<i>Lethrinus miniatus</i>	Emperor, Sweetlip (Red Throat)	<i>Lethrinus miniatus</i>	37351009
Lethrinidae	<i>Lethrinus nebulosus</i>	Emperor, Spangled	<i>Lethrinus nebulosus</i>	37351008
Lethrinidae	<i>Lethrinus olivaceus</i>	Emperor, Long-Nosed	<i>Lethrinus olivaceus</i>	37351004
Lethrinidae	<i>Lethrinus punctulatus</i>	Emperor, Blue-spotted	<i>Lethrinus sp.</i>	37351001

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Lethrinidae	<i>Lethrinus rubrioperculatus</i>	Emperor, Spotcheek	<i>Lethrinus rubrioperculatus</i>	37351012
Lethrinidae	<i>Lethrinus sp. 3</i>	Emperor (unnamed)	<i>Lethrinus spp</i>	37351902
Lethrinidae	<i>Lethrinus variegatus</i>	Emperor, Variegated	<i>Lethrinus variegatus</i>	37351014
Lutjanidae	<i>Aprion virescens</i>	Jobfish, Green	<i>Aprion virescens</i>	37346027
Lutjanidae	<i>Caesioscorpis theagenes</i>	Sweep, Fusilier	<i>Caesioscorpis theagenes</i>	37311135
Lutjanidae	<i>Etelis carbunculus</i>	Snapper, Ruby	<i>Etelis carbunculus</i>	37346014
Lutjanidae	<i>Lutjanus argentimaculatus</i>	Mangrove Jack	<i>Lutjanus argentimaculatus</i>	37346015
Lutjanidae	<i>Lutjanus bohar</i>	Bass, Red	<i>Lutjanus bohar</i>	37346029
Lutjanidae	<i>Lutjanus carponotatus</i>	Seaperch, Stripey (Spanish Flag)	<i>Lutjanus carponotatus</i>	37346011
Lutjanidae	<i>Lutjanus erythropterus</i>	Seaperch, Crimson	<i>Lutjanus erythropterus</i>	37346005
Lutjanidae	<i>Lutjanus fulviflamma</i>	Seaperch, Blackspot	<i>Lutjanus fulviflamma</i>	37346034
Lutjanidae	<i>Lutjanus johnii</i>	Bream, Fingermark	<i>Lutjanus johnii</i>	37346030
Lutjanidae	<i>Lutjanus lemniscatus</i>	Seaperch, Dark-Tailed (Maroon Perch)	<i>Lutjanus lemniscatus</i>	37346010
Lutjanidae	<i>Lutjanus lutjanus</i>	Seaperch, Bigeye	<i>Lutjanus lutjanus</i>	37346008
Lutjanidae	<i>Lutjanus malabaricus</i>	Seaperch, Saddle-tailed (Scarlet)	<i>Lutjanus malabaricus</i>	37346007
Lutjanidae	<i>Lutjanus quinqueineatus</i>	Seaperch, Five-Lined	<i>Lutjanus quinqueineatus</i>	37346006
Lutjanidae	<i>Lutjanus rivulatus</i>	Seaperch, Black-Spot	<i>Lutjanus rivulatus</i>	37346016
Lutjanidae	<i>Lutjanus rufolineatus</i>	Seaperch, Yellow-Lined	<i>Lutjanus rufolineatus</i>	37346040
Lutjanidae	<i>Lutjanus russelli</i>	Seaperch, Moses	<i>Lutjanus russelli</i>	37346065
Lutjanidae	<i>Lutjanus sebae</i>	Red Emperor	<i>Lutjanus sebae</i>	37346004
Lutjanidae	<i>Lutjanus vitta</i>	Brownstripe snapper	<i>Lutjanus vitta</i>	37346003
Lutjanidae	<i>Pristipomoides filamentosus</i>	Jobfish, Rosy (Rosy Snapper)	<i>Pristipomoides filamentosus</i>	37346032
Lutjanidae	<i>Pristipomoides multidentis</i>	Snapper, Goldband	<i>Pristipomoides multidentis</i>	37346002
Lutjanidae	<i>Pristipomoides typus</i>	Sharptooth jobfish	<i>Pristipomoides typus</i>	37346019
Lutjanidae	<i>Symphorus nematophorus</i>	Chinaman Fish	<i>Symphorus nematophorus</i>	37346017
Megalopidae	<i>Megalops cyprinoides</i>	Herring, Oxeye / Tarpon	<i>Megalops cyprinoides</i>	37054001
Menidae	<i>Mene maculata</i>	Moonfish	<i>Mene maculata</i>	37340001
Microcanthidae	<i>Microcanthus strigatus</i>	Stripey	<i>Microcanthus strigatus</i>	37361005
Microcanthidae	<i>Neatypus obliquus</i>	Footballer Sweep	<i>Neatypus obliquus</i>	37361002

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Monacanthidae	<i>Acanthaluteres spilomelanurus</i>	Bridled Leatherjacket	<i>Acanthaluteres spilomelanurus</i>	37465043
Monacanthidae	<i>Aluterus scriptus</i>	Leatherjacket, Scribbled	<i>Aluterus scriptus</i>	37465045
Monacanthidae	<i>Anacanthus barbatus</i>	Leatherjacket, Bearded	<i>Anacanthus barbatus</i>	37465010
Monacanthidae	<i>Brachaluteres jacksonianus</i>	Pygmy Leatherjacket	<i>Brachaluteres jacksonianus</i>	37465025
Monacanthidae	<i>Chaetodermis penicilligera</i>	Leatherjacket, Prickly	<i>Chaetodermis penicilligera</i>	37465013
Monacanthidae	<i>Colurodonis paxmani</i>	Leatherjacket, Paxman's	<i>Colurodonis paxmani</i>	37465054
Monacanthidae	<i>Eubalichthys caeruleoguttatus</i>	Leatherjacket, Blue-spotted	<i>Eubalichthys caeruleoguttatus</i>	37465018
Monacanthidae	<i>Meuschenia flavolineata</i>	Leatherjacket, Yellow Striped	<i>Meuschenia flavolineata</i>	37465035
Monacanthidae	<i>Meuschenia freycineti</i>	Leatherjacket, Six-Spined	<i>Meuschenia freycineti</i>	37465036
Monacanthidae	<i>Meuschenia galii</i>	Leatherjacket, Blue-lined	<i>Meuschenia galii</i>	37465040
Monacanthidae	<i>Meuschenia hippocrepis</i>	Leatherjacket, Horseshoe	<i>Meuschenia hippocrepis</i>	37465004
Monacanthidae	<i>Meuschenia venusta</i>	Stars and Stripes Leatherjacket	<i>Meuschenia venusta</i>	37465060
Monacanthidae	<i>Monacanthus chinensis</i>	Leatherjacket, Fan-bellied	<i>Monacanthus chinensis</i>	37465009
Monacanthidae	<i>Nelusetta ayraudi</i>	Leatherjacket, Chinaman	<i>Nelusetta ayraudi</i>	37465006
Monacanthidae	<i>Paramonacanthus choirocephalus</i>	Leatherjacket, Hair-finned	<i>Paramonacanthus choirocephalus</i>	37465064
Monacanthidae	<i>Penicpelta vittiger</i>	Toothbrush Leatherjacket	<i>Acanthaluteres vittiger</i>	37465002
Monacanthidae	<i>Pseudomonacanthus peroni</i>	Leatherjacket, Pot-bellied	<i>Pseudomonacanthus peroni</i>	37465020
Monacanthidae	<i>Scobinichthys granulatus</i>	Leatherjacket, Rough	<i>Scobinichthys granulatus</i>	37465007
Monacanthidae	<i>Stephanolepis sp.</i>	Leatherjacket, Brown Blotched	<i>Stephanolepis sp.</i>	37465077
Monacanthidae	<i>Eubalichthys mosaicus</i>	Mosaic Leatherjacket	<i>Eubalichthys mosaicus</i>	37465003
Monacanthidae	Monacanthidae	Leatherjacket	Monacanthidae	37465903
Monacanthidae	<i>Penicpelta vittiger</i>	Toothbrush Leatherjacket	<i>Acanthaluteres vittiger</i>	37465002
Monacanthidae	<i>Scobinichthys granulatus</i>	Rough Leatherjacket	<i>Scobinichthys granulatus</i>	37465007
Monocentrididae	<i>Monocentris japonica</i>	Pineapplefish, Japanese	<i>Monocentris japonica</i>	37259002
Mugilidae	<i>Aldrichetta forsteri</i>	Mullet, Yellow Eye (Pilch)	<i>Aldrichetta forsteri</i>	37381001
Mugilidae	<i>Mugil cephalus</i>	Mullet, Sea	<i>Mugil cephalus</i>	37381002
Mugilidae	<i>Myxus elongatus</i>	Mullet, Sand	<i>Myxus elongatus</i>	37381003
Mullidae	<i>Parupeneus barberinoides</i>	Goatfish, Swarthy-headed	<i>Parupeneus barberinoides</i>	37355021
Mullidae	<i>Parupeneus chrysopleuron</i>	Goatfish, Yellow-striped	<i>Parupeneus chrysopleuron</i>	37355016

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Mullidae	<i>Parupeneus signatus</i>	Goatfish, Black-Spotted	<i>Parupeneus spilurus</i>	37355015
Mullidae	<i>Parupeneus spilurus</i>	Goatfish, Black-spot	<i>Parupeneus spilurus</i>	37355015
Mullidae	<i>Upeneichthys stotti</i>	Goatfish, Stott's	<i>Upeneichthys stotti</i>	37355030
Mullidae	<i>Upeneichthys lineatus</i>	Blue-striped Goatfish	<i>Upeneichthys lineatus</i>	37355001
Mullidae	<i>Upeneus asymmetricus</i>	Goatfish, Asymmetrical	<i>Upeneus asymmetricus</i>	37355010
Mullidae	<i>Upeneus moluccensis</i>	Goatfish, Goldband	<i>Upeneus moluccensis</i>	37355003
Mullidae	<i>Upeneus sulphureus</i>	Goatfish, Sunrise	<i>Upeneus sulphureus</i>	37355007
Mullidae	<i>Upeneus sondaicus</i>	Goatfish, Ochre-banded	<i>Upeneus sondaicus</i>	37355013
Mullidae	<i>Upeneus tragula</i>	Goatfish, Bar-tailed	<i>Upeneus tragula</i>	37355014
Mullidae	<i>Upeneichthys vlamingii</i>	Goatfish, Blue-spotted	<i>Upeneichthys vlamingii</i>	37355029
Muraenesocidae	<i>Muraenesox bagio</i>	Eel, Common Pike	<i>Muraenesox bagio</i>	37063003
Muraenesocidae	<i>Oxyconger leptognathus</i>	Eel, Shorttail Pike	<i>Oxyconger leptognathus</i>	37063001
Muraenidae	<i>Gymnothorax cribroris</i>	Eel, Moray Sieve-patterned	<i>Gymnothorax cribroris</i>	37060002
Muraenidae	<i>Gymnothorax prasinus</i>	Eel Moray, Green (Brown Reef Eel)	<i>Gymnothorax prasinus</i>	37060006
Muraenidae	<i>Gymnothorax pseudothyrsoides</i>	Eel, Highfin Moray	<i>Gymnothorax pseudothyrsoides</i>	37060005
Muraenidae	<i>Gymnothorax spp.</i>	Eels, General	<i>Gymnothorax spp.</i>	37060900
Muraenidae	<i>Gymnothorax undulatus</i>	Eel, Mottled Moray	<i>Gymnothorax undulatus</i>	37060053
Muraenidae	<i>Gymnothorax woodwardi</i>	Eel, Woodward's Reef	<i>Gymnothorax woodwardi</i>	37060054
Muraenidae	Muraenidae	Eel	Muraenidae	37060000
Myliobatidae	<i>Aetobatus narinari</i>	Eagle Ray, Spotted	<i>Aetobatus narinari</i>	37039003
Myliobatidae	<i>Aetomylaeus maculatus</i>	Ray, Ornate Eagle	<i>Aetomylaeus vespertilio</i>	37039005
Myliobatidae	<i>Aetomylaeus nichoffii</i>	Eagle Ray, Banded	<i>Aetomylaeus nichoffii</i>	37039002
Myliobatidae	<i>Aetobatus narinari</i>	Ray, White-spotted Eagle	<i>Aetobatus narinari</i>	37039003
Nemipteridae	<i>Nemipterus celebicus</i>	Threadfin Bream, 5-lined	<i>Nemipterus celebicus</i>	37347004
Myliobatidae	<i>Myliobatis australis</i>	Ray, Eagle	<i>Myliobatis australis</i>	37039001
Nemipteridae	<i>Nemipterus furcosus</i>	Threadfin Bream, Rosy	<i>Nemipterus furcosus</i>	37347005
Nemipteridae	<i>Nemipterus peronii</i>	Threadfin Bream, Notched	<i>Nemipterus peronii</i>	37347003
Nemipteridae	<i>Nemipterus sp.</i>	Threadfin Bream	<i>Nemipterus spp.</i>	40347901
Nemipteridae	<i>Pentapodus porosus</i>	Monocle Bream, False Whiptail	<i>Pentapodus porosus</i>	37347007

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Nemipteridae	<i>Pentapodus vitta</i>	Monocle Bream, Western Butterfish	<i>Pentapodus vitta</i>	37347022
Nemipteridae	<i>Scaevius milii</i>	Monocle Bream, Coral	<i>Scaevius milii</i>	37347020
Nemipteridae	<i>Scolopsis taeniopterus</i>	Monocle Bream, Redspot	<i>Scolopsis taenioptera</i>	37347008
Neosebastidae	<i>Neosebastes pandus</i>	Gurnard Perch	<i>Neosebastes pandus</i>	37287003
Neosebastidae	<i>Neosebastes spp.</i>	Gurnard Perch	<i>Neosebastidae</i>	37287000
Neosebastidae	<i>Maxillicosta scabriceps</i>	Little scorpionfish	<i>Maxillicosta scabriceps</i>	37287007
Nettastomatidae	<i>Saurenhelys sp.</i>	Eel, Duckbill	<i>Nettastomatidae</i>	37065000
Odacidae	<i>Haletta semifasciata</i>	Whiting, Blue Weed	<i>Haletta semifasciata</i>	37385009
Odacidae	<i>Odax acroptilus</i>	Cale, Rainbow	<i>Odax acroptilus</i>	37385010
Odontaspidae	<i>Carcharias taurus</i>	Grey Nurse Shark	<i>Carcharias taurus</i>	37008001
Odontaspidae	<i>Carcharias taurus</i>	Shark, Grey Nurse	<i>Carcharias taurus</i>	37008001
Odontodactylidae	<i>Odontodactylus latirostris</i>	mantis shrimp	<i>Odontodactylus latirostris</i>	28038003
Ogocephalidae	<i>Halieutaea indica</i>	Goosefish	<i>Ogocephalidae</i>	37212000
Ophidiidae	<i>Ophidion muraenolepis</i>	Eel, Black-edged Cusk	<i>Ophidion muraenolepis</i>	37228006
Ophidiidae	<i>Genypterus tigrinus</i>	Ling, Rock	<i>Genypterus tigrinus</i>	37228008
Opistognathidae	<i>Opistognathidae</i>	Jawfish	<i>Opistognathidae</i>	37388000
Opistognathidae	<i>Opistognathus latitabundus</i>	Jawfish, Blotched	<i>Opistognathus latitabundus</i>	37388001
Opleganthidae	<i>Oplegnathus woodwardi</i>	Knife Jaw	<i>Oplegnathus woodwardi</i>	37369002
Orectolobidae	<i>Eucrossorhinus dasyopogon</i>	Wobbegong, Tasselled	<i>Eucrossorhinus dasyopogon</i>	37013011
Orectolobidae	<i>Orectolobus halei</i>	Western Wobbegongs	<i>Orectolobus halei</i>	37013020
Orectolobidae	<i>Orectolobus sp.</i>	Wobbegongs/Catsharks, general	<i>Orectolobidae</i>	37013900
Orectolobidae	<i>Orectolobus sp</i>	Wobbegong, Western	<i>Orectolobidae</i>	37013900
Orectolobidae	<i>Orectolobus sp.</i>	Wobbegongs/Catsharks, general	<i>Orectolobidae</i>	37013900
Orectolobidae	<i>Orectolobus spp.</i>	Wobbegong shark	<i>Orectolobidae</i>	37013900
Orectolobidae	<i>Sutorectus tentaculatus</i>	Cobbler Wobbegong	<i>Sutorectus tentaculatus</i>	37013012
Ostraciidae	<i>Anoplocapros lenticularis</i>	White-barred Boxfish	<i>Anoplocapros lenticularis</i>	37466010
Ostraciidae	<i>Anoplocapros robustus</i>	Boxfish, Western Smooth	<i>Anoplocapros amygdaloides</i>	37466015
Ostraciidae	<i>Aracana ornata</i>	Ornate Cowfish	<i>Aracana ornata</i>	37466001
Ostraciidae	<i>Caprichthys gymnura</i>	Rigid Boxfish	<i>Caprichthys gymnura</i>	37466014

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Ostraciidae	<i>Lactoria cornuta</i>	Cowfish, Long-horned	<i>Lactoria cornuta</i>	37466004
Ostraciidae	<i>Lactoria diaphana</i>	Cowfish, Roundbelly	<i>Lactoria diaphana</i>	37466007
Ostraciidae	Ostraciidae	Boxfish/Cowfish	Ostraciidae	37466000
Ostraciidae	<i>Ostracion nasus</i>	Boxfish, Small-nosed	<i>Rhynchostracion nasus</i>	37466005
Ostraciidae	<i>Tetrosomus reipublicae</i>	Turretfish, Small spined	<i>Tetrosomus reipublicae</i>	37466008
Pegasidae	<i>Eurypegasus draconis</i>	Seamoth, Short	<i>Eurypegasus draconis</i>	37309001
Pegasidae	<i>Pegasus volitans</i>	Seamoth, Slender	<i>Pegasus volitans</i>	37309002
Pegasidae	<i>Pegasus lancifer</i>	Sculptured Seamoth	<i>Pegasus lancifer</i>	37309003
Pempheridae	<i>Parapriacanthus ransonneti</i>	Bullseye, Slender	<i>Parapriacanthus ransonneti</i>	37357004
Pempheridae	<i>Pempheris sp.</i>	Bullseye	<i>Pempheridae</i>	37357000
Pempheridae	<i>Parapriacanthus elongatus</i>	Slender Bullseye	<i>Parapriacanthus elongatus</i>	37357002
Pempheridae	<i>Parapriacanthus ransonneti</i>	Bullseye, Slender	<i>Parapriacanthus ransonneti</i>	37357004
Pempheridae	<i>Pempheris klunzingeri</i>	Bullseye, Rough	<i>Pempheris klunzingeri</i>	37357003
Pempheridae	<i>Pempheris ypsilychnus</i>	Bullseye, Lamp-light	<i>Pempheris ypsilychnus</i>	37357007
Pentacerotidae	<i>Parazancistius hutchinsi</i>	Short Boarfish	<i>Parazancistius hutchinsi</i>	37367010
Pentacerotidae	<i>Paristiopterus labiosus</i>	Giant Boarfish	<i>Paristiopterus labiosus</i>	37367002
Pinguipedidae	<i>Parapercis diplospilus</i>	Grubfish, Double-spot	<i>Parapercis diplospilus</i>	37390014
Pinguipedidae	<i>Parapercis multiplacata</i>	Grubfish, Red-Banded	<i>Parapercis multiplacata</i>	37390016
Pinguipedidae	<i>Parapercis nebulosa</i>	Grubfish, Red-barred	<i>Parapercis nebulosa</i>	37390005
Pinnidae	<i>Pinna bicolor</i>	razor clam	<i>Pinna bicolor</i>	23245001
Platycephalidae	<i>Cymbacephalus bosschei</i>	Flathead, Bossch's	<i>Cymbacephalus bosschei</i>	37296031
Platycephalidae	<i>Cymbacephalus nematophthalmus</i>	Flathead, Fringe-eyed	<i>Cymbacephalus nematophthalmus</i>	37296023
Platycephalidae	<i>Inegocia japonica</i>	Flathead, Rusty	<i>Inegocia japonica</i>	37296029
Platycephalidae	<i>Leviprora inops</i>	Flathead, Long-headed	<i>Leviprora inops</i>	37296005
Platycephalidae	<i>Onigocia spinosa</i>	Flathead, Spiny	<i>Onigocia spinosa</i>	37296022
Platycephalidae	Platycephalidae	Flatheads, general	<i>Platycephalidae</i>	37296000
Platycephalidae	<i>Platycephalus arenarius</i>	Flathead, Northern Sand	<i>Platycephalus arenarius</i>	37296021
Platycephalidae	<i>Platycephalus aurimaculatus</i>	Flathead Sp A	<i>Platycephalus aurimaculatus</i>	37296035
Platycephalidae	<i>Platycephalus endrachtensis</i>	Flathead, Bar-tailed	<i>Platycephalus endrachtensis</i>	37296020

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Platycephalidae	<i>Platycephalus indicus</i>	Flathead, Indian	<i>Platycephalus indicus</i>	37296033
Platycephalidae	<i>Platycephalus inops</i>	Long-headed Flathead	<i>Leviprora inops</i>	37296005
Platycephalidae	<i>Platycephalus longispinis</i>	Flathead, Long-spined	<i>Platycephalus longispinis</i>	37296036
Platycephalidae	<i>Platycephalus marmoratus</i>	Flathead, Marbled	<i>Platycephalus marmoratus</i>	37296038
Platycephalidae	<i>Platycephalus speculator</i>	Flathead, Southern Blue-Spotted	<i>Platycephalus speculator</i>	37296037
Platycephalidae	<i>Rogadius patriciae</i>	Flathead, Black-banded	<i>Rogadius patriciae</i>	37296008
Platycephalidae	<i>Sorsogona tuberculata</i>	Flathead, Heart-headed	<i>Sorsogona tuberculata</i>	37296030
Platycephalidae	<i>Suggrundus japonica</i>	Flathead, Rusty	<i>Inegocia japonica</i>	37296029
Platycephalidae	<i>Suggrundus macracanthus</i>	Flathead, Large-spined	<i>Suggrundus macracanthus</i>	37296012
Platycephalidae	<i>Thysanophrys cirronasus</i>	Flathead, Tassel-snouted	<i>Thysanophrys cirronasa</i>	37296045
Plesiopidae	<i>Paraplesiops meleagris</i>	Blue Devil, Western	<i>Paraplesiops meleagris</i>	37316009
Pleurobranchidae	<i>Euselenops luniceps</i>	Side-gilled Sealug	<i>Pleurobranchidae</i>	24395000
Pleurobranchidae	<i>Pleurobranchus sp.</i>	Side-gilled Sealug	<i>Pleurobranchidae</i>	24395000
Pleuronectidae	<i>Ammotretis elongatus</i>	Elongated Flounder	<i>Ammotretis elongatus</i>	37461007
Pleuronectidae	<i>Psammodycus ocellatus</i>	Flounder, Freckled	<i>Psammodycus ocellatus</i>	37461009
Plotosidae	<i>Cnidogobius macrocephalus</i>	Cobbler	<i>Cnidogobius macrocephalus</i>	37192001
Plotosidae	<i>Euristhmus lepturus</i>	Catfish, Long-tailed	<i>Euristhmus lepturus</i>	37192004
Plotosidae	<i>Euristhmus microceps</i>	Catfish, Small-headed	<i>Euristhmus microceps</i>	37192007
Plotosidae	<i>Euristhmus nudiceps</i>	Catfish, Naked-headed	<i>Euristhmus nudiceps</i>	37192003
Plotosidae	<i>Paraplotosus albilabris</i>	Catfish, White-lipped	<i>Paraplotosus albilabris</i>	37192005
Plotosidae	<i>Paraplotosus sp.</i>	Catfish, Eel-tailed	<i>Plotosidae</i>	37192000
Plotosidae	<i>Plotosus lineatus</i>	Catfish, Striped	<i>Plotosus lineatus</i>	37192002
Polynemidae	<i>Eleutheronema tetradactylum</i>	Threadfin Salmon, Giant/bluenose	<i>Eleutheronema tetradactylum</i>	37383004
Polynemidae	<i>Polydactylus multiradiatus</i>	Gunther's Threadfin	<i>Polydactylus multiradiatus</i>	37383002
Polynemidae	<i>Polydactylus nigripinnis</i>	Threadfin, Black-finned	<i>Polydactylus nigripinnis</i>	37383001
Polynemidae	<i>Polydactylus plebeius</i>	Threadfin Salmon, Northern	<i>Polydactylus plebeius</i>	37383009
Polynemidae	<i>Polynemidae</i>	Threadfin Salmon - General	<i>Polynemidae</i>	37383000
Polyprionidae	<i>Polyprion oxygeneios</i>	Hapuku	<i>Polyprion oxygeneios</i>	37311006
Pomacanthidae	<i>Chaetodontoplus duboulayi</i>	Angelfish, Scribbled	<i>Chaetodontoplus duboulayi</i>	37365009

Family	Species Name	Common Name	CAAB Scientific name	CAAB Code
Pomacanthidae	<i>Pomacanthus semicirculatus</i>	Anglefish, Blue	<i>Pomacanthus semicirculatus</i>	37365080
Pomacentridae	<i>Abudefduf vaigiensis</i>	Sergeant, Major	<i>Abudefduf vaigiensis</i>	37372013
Pomacentridae	<i>Amphiprion clarkii</i>	Anemonefish, Clark's	<i>Amphiprion clarkii</i>	37372007
Pomacentridae	<i>Chromis fumea</i>	Chromis, Smokey	<i>Chromis fumea</i>	37372004
Pomacentridae	<i>Neopomacentrus cyanomos</i>	Damsel, Regal	<i>Neopomacentrus cyanomos</i>	37372089
Pomacentridae	<i>Neopomacentrus filamentosus</i>	Damsel, Brown Demoiselle	<i>Neopomacentrus filamentosus</i>	37372090
Pomacentridae	<i>Parma mccullochi</i>	Scalyfin, Common	<i>Parma mccullochi</i>	37372093
Pomacentridae	<i>Parma mccullochi</i>	Scalyfin, Common (Mcculloughs)	<i>Parma mccullochi</i>	37372093
Pomacentridae	<i>Parma muccullochi</i>	Scalyfin	<i>Parma muccullochi</i>	37372093
Pomacentridae	<i>Parma occidentalis</i>	Scalyfin, Western	<i>Parma occidentalis</i>	37372094
Pomacentridae	<i>Pomacentridae</i>	Damselfish, General	<i>Pomacentridae</i>	37 372000
Pomacentridae	<i>Pristotis obtusirostris</i>	Damsel, Gulf	<i>Pristotis obtusirostris</i>	37372001
Pomatomidae	<i>Pomatomus saltator</i>	Tailor	<i>Pomatomus saltatrix</i>	37334002
Pomatomidae	<i>Pomatomus saltatrix</i>	Tailor	<i>Pomatomus saltatrix</i>	37334002
Priacanthidae	<i>Priacanthus macracanthus</i>	Bigeye, Red	<i>Priacanthus macracanthus</i>	37326001
Priacanthidae	<i>Priacanthus tayenus</i>	Bigeye, Threadfin	<i>Priacanthus tayenus</i>	37326003
Pristigasteridae	<i>Pellona ditchela</i>	Ditchelee	<i>Pellona ditchela</i>	37085009
Pristiophoridae	<i>Pristiophorus cirratus</i>	Common Sawshark	<i>Pristiophorus cirratus</i>	37023002
Pristiophoridae	<i>Pristiophorus cirratus</i>	Common Stinkfish	<i>Pristiophorus cirratus</i>	37023002
Psettidae	<i>Psettodes erumei</i>	Halibut, Queensland	<i>Psettodes erumei</i>	37457001
Psettodidae	<i>Psettodes erumei</i>	Flounder, Queensland Halibut	<i>Psettodes erumei</i>	37457001
Pseudochromidae	<i>Congrogadus subducens</i>	Eel-Blenny, Carpet	<i>Congrogadus subducens</i>	37411004
Pseudochromidae	<i>Cypho purpurascens</i>	Dottyback, Oblique-lined	<i>Cypho purpurascens</i>	37313013
Pseudochromidae	<i>Labracinus lineatus</i>	Lined Dottyback	<i>Labracinus lineatus</i>	37313003
Pseudochromidae	<i>Pseudochromis quinquedentatus</i>	Dottyback, Spotted	<i>Pseudochromis quinquedentatus</i>	37313001
Pseudochromidae	<i>Assiculus punctatus</i>	Dottyback, Longfin	<i>Assiculus punctatus</i>	37313012
Rachycentridae	<i>Rachycentron canadum</i>	Cobia	<i>Rachycentron canadum</i>	37335001
Rays	Order rajiformes	Rays, general	<i>Rajiformes</i>	37990030
Rhinobatidae	<i>Aptychotrema vincentiana</i>	Shovelnose Ray, Western/Southern	<i>Aptychotrema vincentiana</i>	37027001

Family	Species Name	Common Name	CAAB Scientific name	CAAB Code
Rhinobatidae	Rhinobatidae	Rays, Shovelnose, General	<i>Rhinobatidae</i>	37027000
Rhinobatidae	<i>Rhinobatos typus</i>	Shovelnose, Giant	<i>Rhinobatos typus</i>	37027010
Rhinobatidae	<i>Trygonorrhina fasciata</i>	Ray, Southern Fiddler	<i>Trygonorrhina fasciata</i>	37027006
Rhynchobatidae	<i>Rhynchobatus djiddensis</i>	Shovelnose Ray, Whitespot/White-spotted Guitar fish	<i>Rhynchobatus australiae</i>	37026005
Salmonidae	<i>Oncorhynchus mykiss</i>	Trout, Rainbow	<i>Oncorhynchus mykiss</i>	37094003
Salmonidae	<i>Salmo trutta</i>	Trout, Brown	<i>Salmo trutta</i>	37094004
Scaridae	<i>Leptoscarus vaigiensis</i>	Parrotfish, Blue-spotted	<i>Leptoscarus vaigiensis</i>	37386009
Scaridae	<i>Scarus cf. ghobban?</i>	Parrotfish, Blue-barred	<i>Scarus ghobban</i>	37386001
Scaridae	<i>Scarus ghobban</i>	Blue-barred Parrotfish	<i>Scarus ghobban</i>	37386001
Scaridae	<i>Scarus sp.</i>	Parrotfish	<i>Scaridae</i>	37386000
Scaridae	<i>Calotomus spinidens</i>	Parrotfish, Spinytooth	<i>Calotomus spinidens</i>	37386006
Sciaenidae	<i>Argyrosomus hololepidotus</i>	Mulloway	<i>Argyrosomus hololepidotus</i>	37354001
Sciaenidae	<i>Argyrosomus japonicus</i>	Mulloway	<i>Argyrosomus hololepidotus</i>	37354001
Sciaenidae	<i>Johnius borneensis</i>	Croaker, Little Jewfish	<i>Johnius borneensis</i>	37354007
Sciaenidae	<i>Protonibea diacanthus</i>	Jew, Black (Northern Mulloway)	<i>Protonibea diacanthus</i>	37354003
Scombridae	<i>Acanthocybium solandri</i>	Wahoo	<i>Acanthocybium solandri</i>	37441024
Scombridae	<i>Auxis thazard</i>	Mackerel, Frigate	<i>Auxis thazard</i>	37441009
Scombridae	<i>Euthynnus affinis</i>	Tuna, Mackerel	<i>Euthynnus affinis</i>	37441010
Scombridae	<i>Grammatorcynus bicarinatus</i>	Mackerel, Shark	<i>Grammatorcynus bicarinatus</i>	37441025
Scombridae	<i>Gymnosarda unicolor</i>	Tuna, Dogtooth	<i>Gymnosarda unicolor</i>	37441029
Scombridae	<i>Katsuwonus pelamis</i>	Tuna, Skipjack	<i>Katsuwonus pelamis</i>	37441003
Scombridae	<i>Rastrelliger kanagurta</i>	Mackerel, Long-jawed	<i>Rastrelliger kanagurta</i>	37441012
Scombridae	<i>Sarda orientalis</i>	Bonito, Oriental	<i>Sarda orientalis</i>	37441006
Scombridae	<i>Scomber australasicus</i>	Mackerel, Blue	<i>Scomber australasicus</i>	37441001
Scombridae	<i>Scomberomorus commerson</i>	Mackerel, Narrow-Barred Spanish	<i>Scomberomorus commerson</i>	37441007
Scombridae	<i>Scomberomorus munroi</i>	Mackerel, Australian Spotted	<i>Scomberomorus munroi</i>	37441015
Scombridae	<i>Scomberomorus queenslandicus</i>	Mackerel, Queensland School (Dog Mackerel)	<i>Scomberomorus queenslandicus</i>	37441014

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Scorbridae	<i>Scomberomorus semifasciatus</i>	Mackerel, Broad-Barred Spanish	<i>Scomberomorus semifasciatus</i>	37441018
Scorbridae	Scorbridae	Bonitos, general	<i>Sarda spp</i>	37441910
Scorbridae	Scorbridae	Mackerels, General	Scorbridae	37441000
Scorbridae	Scorbridae	Tunas, General	Scorbridae	37441000
Scorbridae	<i>Thunnus alalunga</i>	Albacore	<i>Thunnus alalunga</i>	37441005
Scorbridae	<i>Thunnus albacares</i>	Tuna, Yellowfin	<i>Thunnus albacares</i>	37441002
Scorbridae	<i>Thunnus maccoyii</i>	Tuna, Southern Bluefin	<i>Thunnus maccoyii</i>	37441004
Scorbridae	<i>Thunnus obesus</i>	Tuna, Bigeye	<i>Thunnus obesus</i>	37441011
Scorbridae	<i>Thunnus tonggol</i>	Tuna, Northern Bluefin (Long-Tailed)	<i>Thunnus tonggol</i>	37441013
Scorbridae	<i>Trachurus declivis</i>	Mackerel, Scaly	<i>Trachurus declivis</i>	37337002
Scorpaenidae	<i>Apistops caloundra</i>	Scorpionfish, Short-finned Waspfish	<i>Apistops caloundra</i>	37287033
Scorpaenidae	<i>Apistus carinatus</i>	Scorpionfish, Long-finned Wasp	<i>Apistus carinatus</i>	37287011
Scorpaenidae	<i>Cottapistus cottoides</i>	Scorpionfish, Marbled	<i>Cottapistus cottoides</i>	37287014
Scorpaenidae	<i>Dendrochirus brachypterus</i>	Scorpionfish, Dwarf Lionfish	<i>Dendrochirus brachypterus</i>	37287010
Scorpaenidae	<i>Inimicus didactylus</i>	Stonefish, Demon stinger	<i>Inimicus didactylus</i>	37287028
Scorpaenidae	<i>Inimicus sinensis</i>	Stinger, Spotted	<i>Inimicus sinensis</i>	37287020
Scorpaenidae	<i>Minous versicolor</i>	Scorpionfish, Plumb-striped Stingfish	<i>Minous versicolor</i>	37287021
Scorpaenidae	<i>Neosebastes pandus</i>	Gurnard Perch	<i>Neosebastes pandus</i>	37287003
Scorpaenidae	<i>Paracentropogon vespa</i>	Scorpionfish, Spot Fin Waspfish/ Bullrout	<i>Paracentropogon vespa</i>	37287060
Scorpaenidae	<i>Parascorpaena mossambica</i>	Scorpionfish, Mozambique	<i>Parascorpaena mossambica</i>	37287062
Scorpaenidae	<i>Parascorpaena picta</i>	Scorpionfish, Northern	<i>Parascorpaena picta</i>	37287071
Scorpaenidae	<i>Pterois russelli</i>	Scorpionfish, Spotless Firefish	<i>Pterois russelli</i>	37287012
Scorpaenidae	<i>Pterois volitans</i>	Scorpionfish, Red Firefish	<i>Pterois volitans</i>	37287040
Scorpaenidae	<i>Richardsonichthys leucogaster</i>	White-bellied Rougfish	<i>Richardsonichthys leucogaster</i>	37287036
Scorpaenidae	<i>Scorpaena sumptuosa</i>	Scorpionfish, Western Red	<i>Scorpaena sumptuosa</i>	37287072
Scorpaenidae	Scorpaenidae	Scorpionfishes, general	Scorpaenidae	37287900
Scorpaenidae	<i>Scorpaenopsis neglecta</i>	Scorpionfish, Yellowfin	<i>Scorpaenopsis neglecta</i>	37287030
Scorpaenidae	<i>Synanceia horrida</i>	Scorpionfish, Estuarine Stonefish	<i>Synanceia horrida</i>	37287049

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Scorpididae	<i>Neotypus obliquus</i>	Sweep, Footballer	<i>Neotypus obliquus</i>	37361002
Scorpididae	<i>Scorpis aequipinnis</i>	Sweep, Sea	<i>Scorpis aequipinnis</i>	37361004
Scorpididae	<i>Scorpis georgianus</i>	Sweep, Banded	<i>Scorpis georgiana</i>	37361015
Scorpididae	<i>Tilodon sexfasciatum</i>	Moonlighter	<i>Tilodon sexfasciatus</i>	37361003
Scyliorhinidae	<i>Atelomycterus macleayi</i>	Catshark, Marbled	<i>Atelomycterus macleayi</i>	37015028
Scyliorhinidae	<i>Atelomycterus sp</i>	Catshark, Banded	Scyliorhinidae	37015000
Scyliorhinidae	<i>Aulohalaelurus labiosus</i>	Catshark, Black-Spotted	<i>Aulohalaelurus labiosus</i>	37015029
Scyliorhinidae	<i>Halaelurus boesemani</i>	Catshark, Speckled	<i>Halaelurus sellus</i>	37015004
Serranidae	<i>Acanthistius pardalotus</i>	Leopard Wirrah	<i>Acanthistius pardalotus</i>	37311132
Serranidae	<i>Acanthistius serratus</i>	Wirrah, Western	<i>Acanthistius serratus</i>	37311035
Serranidae	<i>Caesioperca rasor</i>	Perch, Barber	<i>Caesioperca rasor</i>	37311003
Serranidae	<i>Caesioperca sp.</i>	Redline Seaperch	<i>Caesioperca sp.</i>	37311182
Serranidae	<i>Caesioscorpis theagene</i>	Fusilier Sweep	<i>Caesioscorpis theagenes</i>	37311135
Serranidae	<i>Centrogenys vaigiensis</i>	Rockcod, False Scorpionfish	<i>Centrogenys vaigiensis</i>	37311030
Serranidae	<i>Cephalopholis sonnerati</i>	Rockcod, Tomato	<i>Cephalopholis sonnerati</i>	37311045
Serranidae	<i>Cephalopholis boenak</i>	Rockcod, Brown-banded	<i>Cephalopholis boenak</i>	37311008
Serranidae	<i>Cephalopholis cyanostigma</i>	Rockcod, Blue-Spotted	<i>Cephalopholis cyanostigma</i>	37311136
Serranidae	<i>Cephalopholis leopardus</i>	Rockcod, Blue-Lined	<i>Cephalopholis leopardus</i>	37311138
Serranidae	<i>Epinephelides armatus</i>	Cod, Breaksea (Black-arse Cod)	<i>Epinephelides armatus</i>	37311100
Serranidae	<i>Epinephelus amblycephalus</i>	Rockcod, Blunt-headed	<i>Epinephelus amblycephalus</i>	37311015
Serranidae	<i>Epinephelus areolatus</i>	Rockcod, Yellow-spotted	<i>Epinephelus areolatus</i>	37311009
Serranidae	<i>Epinephelus bilobatus</i>	Cod, Frostback	<i>Epinephelus bilobatus</i>	37311062
Serranidae	<i>Epinephelus coioides</i>	Cod, Estuary/Slimy Cod	<i>Epinephelus coioides</i>	37311007
Serranidae	<i>Epinephelus fasciatus</i>	Cod, Black-Tipped	<i>Epinephelus fasciatus</i>	37311014
Serranidae	<i>Epinephelus fuscoguttatus</i>	Cod, Flowery	<i>Epinephelus fuscoguttatus</i>	37311021
Serranidae	<i>Epinephelus lanceolatus</i>	Groper, Queensland	<i>Epinephelus lanceolatus</i>	37311061
Serranidae	<i>Epinephelus malabaricus</i>	Groper, Malabar	<i>Epinephelus malabaricus</i>	37311150
Serranidae	<i>Epinephelus merra</i>	Cod, Honeycomb	<i>Epinephelus merra</i>	37311063
Serranidae	<i>Epinephelus miniata</i>	Cod, Coral	<i>Cephalopholis miniata</i>	37311083

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Serranidae	<i>Epinephelus multinotatus</i>	Rockcod, Rankin's (White-Blotched)	<i>Epinephelus multinotatus</i>	37311010
Serranidae	<i>Epinephelus octofasciatus</i>	Eightbar grouper	<i>Epinephelus octofasciatus</i>	37311152
Serranidae	<i>Epinephelus quoyanus</i>	Rockcod, Long-finned	<i>Epinephelus quoyanus</i>	37311040
Serranidae	<i>Epinephelus rivulatus</i>	Cod, Chinaman	<i>Epinephelus rivulatus</i>	37311022
Serranidae	<i>Epinephelus septemfasciatus</i>	Rockcod, Grey-banded	<i>Epinephelus septemfasciatus</i>	37311060
Serranidae	<i>Epinephelus sexfasciatus</i>	Rockcod, Six-banded	<i>Epinephelus sexfasciatus</i>	37311017
Serranidae	<i>Epinephelus tauvina</i>	Cod, Reef	<i>Epinephelus tauvina</i>	37311057
Serranidae	<i>Epinephelus tukula</i>	Cod, Potato	<i>Epinephelus tukula</i>	37311068
Serranidae	<i>Hypoplectrodes nigrorubrum</i>	Seaperch, Black-banded	<i>Hypoplectrodes nigroruber</i>	37311037
Serranidae	<i>Othos dentex</i>	Harlequin Fish	<i>Othos dentex</i>	37311005
Serranidae	<i>Plectropomus leopardus</i>	Trout, Coral	<i>Plectropomus leopardus</i>	37311078
Serranidae	<i>Variola louti</i>	Trout, Coronation	<i>Variola louti</i>	37311166
Sicyoniidae	<i>Sicyonia lancifera</i>	Ridgeback Rock Shrimp	<i>Sicyonia lancifera</i>	28715001
Siganidae	<i>Siganus canaliculatus</i>	Spinefoot, White-spotted/Smudgespot	<i>Siganus canaliculatus</i>	37438004
Siganidae	<i>Siganus nebulosus</i>	Spinefoot, Black	<i>Siganus nebulosus</i>	37438001
Siganidae	<i>Siganus spinus</i>	Spinefoot, Spiny	<i>Siganus spinus</i>	37438013
Sillaginidae	<i>Sillaginodes punctata</i>	Whiting, King George	<i>Sillaginodes punctata</i>	37330001
Sillaginidae	<i>Sillago bassensis</i>	Whiting, School Southern / Silver	<i>Sillago bassensis</i>	37330002
Sillaginidae	<i>Sillago burrus</i>	Whiting, Trumpeter	<i>Sillago burrus</i>	37330004
Sillaginidae	<i>Sillago ciliata</i>	Whiting, General/Sand	<i>Sillago ciliata</i>	37330010
Sillaginidae	<i>Sillago lutea</i>	Whiting, Mud	<i>Sillago lutea</i>	37330007
Sillaginidae	<i>Sillago maculata</i>	Whiting, Trumpeter	<i>Sillago maculata</i>	37330015
Sillaginidae	<i>Sillago robusta</i>	Whiting, Robust	<i>Sillago robusta</i>	37330005
Sillaginidae	<i>Sillago schomburgkii</i>	Whiting, Yellow-Finned (Western Sand)	<i>Sillago schomburgkii</i>	37330012
Sillaginidae	<i>Sillago vittata</i>	Whiting, Western School	<i>Sillago vittata</i>	37330013
Sillaginidae	<i>Sillaginodes punctatus</i>	King George Whiting	<i>Sillaginodes punctata</i>	37330001
Sillaginidae	<i>Sillago bassensis</i>	School Whiting	<i>Sillago bassensis</i>	37330002
Sillaginidae	<i>Sillago maculata</i>	Trumpeter Whiting	<i>Sillago maculata</i>	37330015
Sillaginidae	<i>Sillago robusta</i>	Stout Whiting	<i>Sillago robusta</i>	37330005

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Silliganidae	<i>Sillago vittata</i>	Western School Whiting	<i>Sillago vittata</i>	37330013
Soleidae	<i>Aesopia cornuta</i>	Sole, Dark Thick-rayed	<i>Aesopia cornuta</i>	37462001
Soleidae	<i>Aseraggodes melanospilus</i>	Sole, Dark-Spotted	<i>Aseraggodes melanospilus</i>	37462012
Soleidae	<i>Brachirus muelleri</i>	Sole, Tufted	<i>Brachirus muelleri</i>	37462007
Soleidae	<i>Pardachirus pavoninus</i>	Sole, Peacock	<i>Pardachirus pavoninus</i>	37462009
Soleidae	<i>Phyllichthys sp</i>	Sole	Soleidae	37462000
Soleidae	<i>Sp nov.</i>	Peacock Sole	<i>Pardachirus pavoninus</i>	37462009
Soleidae	<i>Strabozebras cancellatus</i>	Sole, Harrowed	<i>Zebrias cancellatus</i>	37462006
Soleidae	<i>Zebrias cancellatus</i>	Harrowed Sole	<i>Zebrias cancellatus</i>	37462006
Soleidae	<i>Zebrias craticula</i>	Sole, Wickenwork	<i>Zebrias craticulus</i>	37462003
Soleidae	<i>Zebrias craticula</i>	Wickenwork Sole	<i>Zebrias craticulus</i>	37462003
Sparidae	<i>Acanthopagrus butcheri</i>	Bream, Black	<i>Acanthopagrus butcheri</i>	37353003
Sparidae	<i>Acanthopagrus latus</i>	Bream, Western Yellowfin	<i>Acanthopagrus latus</i>	37353012
Sparidae	<i>Acanthopagrus palmaris</i>	Bream, Northwest Black /Pikey Bream	<i>Acanthopagrus palmaris</i>	37353014
Sparidae	<i>Argyrops spinifer</i>	Snapper, Long-spined	<i>Argyrops spinifer</i>	37353006
Sparidae	<i>Pagrus auratus</i>	Snapper, Pink	<i>Pagrus auratus</i>	37353001
Sparidae	<i>Rhabdosargus sarba</i>	Bream, Silver (Tanwhine)	<i>Rhabdosargus sarba</i>	37353013
Sparidae	Sparidae	Snappers/Bream, general	Sparidae	37 353000
Sphyrnaenidae	<i>Sphyraena barracuda</i>	Great barracuda	<i>Sphyraena barracuda</i>	37382008
Sphyrnaenidae	<i>Sphyraena jello</i>	Pickhandle barracuda	<i>Sphyraena jello</i>	37382004
Sphyrnaenidae	<i>Sphyraena novaehollandiae</i>	Snook	<i>Sphyraena novaehollandiae</i>	37382002
Sphyrnaenidae	<i>Sphyraena obtusata</i>	Seapike, Striped	<i>Sphyraena obtusata</i>	37382001
Sphyrnaenidae	<i>Sphyraena genie</i>	Seapike, Military	<i>Sphyraena genie</i>	37382009
Sphyrnidae	<i>Sphyrna sp.</i>	Sharks, Hammerhead	<i>Sphyrnidae</i>	37019000
Sphyrnidae	<i>Sphyrna zygaena</i>	Shark, Smooth Hammerhead	<i>Sphyrna zygaena</i>	37019004
Spongiidae	<i>Hippospongia sp.</i>	Sponge	<i>Spongiidae</i>	10114000
Squillidae	<i>Alimopsoides sp.</i>	Mantis shrimp	<i>Squillidae</i>	28051000
Family	SpeciesName	CommonName	CAABSciname	CAABCode
Squalidae	Family Scyliorhinidae	Catshark (unspecified)	<i>Scyliorhinidae</i>	37015000

Family	Species Name	Common Name	CAAB Scientific name	CAAB Code
Squalidae	Family Squalidae	Dogfish (unspecified)	Family Squalidae	37020000
Squatinae	<i>Squatina australis</i>	Angel Shark	<i>Squatina australis</i>	37024001
Stegostomatidae	<i>Stegostoma fasciatum</i>	Shark, Leopard	<i>Stegostoma fasciatum</i>	37013006
Synanceiidae	<i>Synanceia horrida</i>	Stonefish, Estuarine	<i>Synanceia horrida</i>	37287049
Syngnathidae	<i>Filicampus tigris</i>	Pipefish, Tiger	<i>Filicampus tigris</i>	37282064
Syngnathidae	<i>Halicampus grayi</i>	Pipefish, Gray's	<i>Halicampus grayi</i>	37282030
Syngnathidae	<i>Haliichthys taeniophorus</i>	Pipefish, Ribboned	<i>Haliichthys taeniophorus</i>	37282007
Syngnathidae	<i>Hippocampus alatus</i>	Seahorse, Winged	<i>Hippocampus alatus</i>	37282118
Syngnathidae	<i>Hippocampus angustus</i>	Seahorse, Western Spiny	<i>Hippocampus angustus</i>	37282005
Syngnathidae	<i>Hippocampus biocellatus</i>	Seahorse, False-eyed	<i>Hippocampus biocellatus</i>	37282115
Syngnathidae	<i>Hippocampus planifrons</i>	Seahorse, Flat-face	<i>Hippocampus planifrons</i>	37282078
Syngnathidae	<i>Hippocampus zebra</i>	Seahorse, Zebra	<i>Hippocampus zebra</i>	37282080
Syngnathidae	<i>Stigmatopora argus</i>	Pipefish, Spotted	<i>Stigmatopora argus</i>	37282017
Syngnathidae	<i>Syngnathoides biaculeatus</i>	Pipefish, Alligator	<i>Syngnathoides biaculeatus</i>	37282100
Syngnathidae	<i>Trachyrhamphus bicoarctatus</i>	Pipefish, Short-tailed	<i>Trachyrhamphus bicoarctatus</i>	37282006
Synodontidae	<i>Saurida argentea</i>	Lizardfish, Common	<i>Saurida argentea</i>	37118005
Synodontidae	<i>Saurida nebulosa</i>	Lizardfish, Clouded	<i>Saurida nebulosa</i>	37118027
Synodontidae	<i>Saurida sp.</i>	Lizardfish	<i>Synodontidae</i>	37118000
Synodontidae	<i>Saurida undosquamis</i>	Lizardfish, Large-scaled Grinner	<i>Saurida undosquamis</i>	37118001
Synodontidae	<i>Synodus dermatogenys</i>	Lizardfish, Banded	<i>Synodus dermatogenys</i>	37118003
Synodontidae	<i>Synodus doaki</i>	Lizardfish, Doaks	<i>Synodus doaki</i>	37118022
Synodontidae	<i>Synodus hoshinonis</i>	Lizardfish, Black-shouldered	<i>Synodus hoshinonis</i>	37118010
Synodontidae	<i>Synodus sageneus</i>	Lizardfish, Notted	<i>Synodus sageneus</i>	37118004
Synodontidae	<i>Synodus variegatus</i>	Lizardfish, Variegated	<i>Synodus variegatus</i>	37118023
Synodontidae	<i>Trachinocephalus myops</i>	Lizardfish, Painted Grinner	<i>Trachinocephalus myops</i>	37118002
Temnopleuridae	<i>Temnopleurus alexandri</i>	sea urchin	<i>Temnopleurus alexandri</i>	25241025
Temnopleuridae	<i>Temnopleurus michaelsoni</i>	sea urchin	<i>Temnopleurus michaelsoni</i>	25241026
Family	SpeciesName	CommonName	CAABSciname	CAABCode
Temnopleuridae	<i>Temnotrema elegans</i>	sea urchin	<i>Temnotrema elegans</i>	25241029

Family	Species Name	Common Name	CAAB Scientific name	CAAB Code
Tetraodontidae	<i>Amniataba caudavittata</i>	Trumpeter, Yellowtail	<i>Amniataba caudavittata</i>	37321007
Teraodontidae	<i>Pelates quadrilineatus</i>	Trumpeter, 4-lined	<i>Pelates quadrilineatus</i>	37321001
Teraodontidae	<i>Pelates sexlineatus</i>	Trumpeter, Striped/Six-lined	<i>Pelates sexlineatus</i>	37321005
Teraodontidae	<i>Pelsartia humeralis</i>	Trumpeter, Sea (Stormy Perch)	<i>Pelsartia humeralis</i>	37321021
Teraodontidae	<i>Terapon jarbua</i>	Perch, Crescent	<i>Terapon jarbua</i>	37321002
Teraodontidae	<i>Terapon puta</i>	Trumpeter, Three-lined	<i>Terapon puta</i>	37321006
Teraodontidae	<i>Terapon theraps</i>	Trumpeter, Banded	<i>Terapon theraps</i>	37321003
Teraodontidae	Tetraodontidae	Trumpeters/Grunters, General	Tetraodontidae	37321000
Tetraodontidae	<i>Anchisomus multistriatus</i>	Toadfish, Many-striped	<i>Feroxodon multistriatus</i>	37467010
Tetraodontidae	<i>Arothron hispidus</i>	Toadfish, Stars and Stripes	<i>Arothron hispidus</i>	37467033
Tetraodontidae	<i>Arothron stellatus</i>	Pufferfish, Starry	<i>Arothron stellatus</i>	37467014
Tetraodontidae	<i>Canthigaster coronata</i>	Puffer, Threee-barred	<i>Canthigaster coronata</i>	37467013
Tetraodontidae	<i>Canthigaster rivulata</i>	Puffer, Brown-lined	<i>Canthigaster rivulata</i>	37467018
Tetraodontidae	<i>Contusus breviceaudus</i>	Prickly Toadfish	<i>Contusus breviceaudus</i>	37467044
Tetraodontidae	<i>Contusus breviceaudus</i>	Toadfish, Prickly	<i>Contusus breviceaudus</i>	37467044
Tetraodontidae	<i>Lagocephalus lunaris</i>	Toadfish, Rough Golden	<i>Lagocephalus lunaris</i>	37467012
Tetraodontidae	<i>Lagocephalus scleratus</i>	Blowfish, Northwest (Silver Toadfish)	<i>Lagocephalus scleratus</i>	37467007
Tetraodontidae	<i>Lagocephalus scleratus</i>	Toadfish, Silver/NW Blowie	<i>Lagocephalus scleratus</i>	37467007
Tetraodontidae	<i>Lagocephalus spadiceus</i>	Toadfish, Brown-Backed	<i>Lagocephalus spadiceus</i>	37467017
Tetraodontidae	<i>Omegophora armilla</i>	Ringed Toadfish	<i>Omegophora armilla</i>	37467002
Tetraodontidae	<i>Omegophora cyanopunctata</i>	Blue-spotted Pufferfish	<i>Omegophora cyanopunctata</i>	37467048
Tetraodontidae	<i>Polyspina piosae</i>	Orange-barred Pufferfish	<i>Polyspina piosae</i>	37467049
Tetraodontidae	<i>Polyspina piosae</i>	Toadfish, Orange-barred Pufferfish	<i>Polyspina piosae</i>	37467049
Tetraodontidae	Tetraodontidae	Pufferfishes, Toadfishes And Tobies	Tetraodontidae	37467000
Tetraodontidae	<i>Torquigener pleurogramma</i>	Banded Toadfish	<i>Torquigener pleurogramma</i>	37467030
Tetraodontidae	<i>Torquigener pallimaculatus</i>	Toadfish, Orange Spotted	<i>Torquigener pallimaculatus</i>	37467009
Tetraodontidae	<i>Torquigener pallimaculatus</i>	Toadfish, Orange-spotted	<i>Torquigener pallimaculatus</i>	37467009
Tetraodontidae	<i>Torquigener pleurogramma</i>	Blowfish, Common	<i>Torquigener pleurogramma</i>	37467030
Tetraodontidae	<i>Torquigener pleurogramma</i>	Toadfish, Banded	<i>Torquigener pleurogramma</i>	37467030

Family	Species Name	Common Name	CAAB Scientific name	CAAB Code
Tetraodontidae	<i>Torquigener whiteyi</i>	Toadfish, Whitley's	<i>Torquigener whiteyi</i>	37467028
Triacanthidae	<i>Tripodichthys angustifrons</i>	Tripodfish, Black Flag	<i>Tripodichthys angustifrons</i>	37464007
Triakidae	<i>Furgaleus macki</i>	Shark, Whiskery	<i>Furgaleus macki</i>	37017003
Triakidae	<i>Galeorhinus galeus</i>	Shark, School	<i>Galeorhinus galeus</i>	37017008
Triakidae	<i>Mustelus antarcticus</i>	Shark, Gummy	<i>Mustelus antarcticus</i>	37017001
Triakidae	<i>Mustelus sp. A</i>	Shark, Grey Gummy	<i>Mustelus antarcticus</i>	38017001
Trichiuridae	<i>Trichiurus lepturus</i>	Hairtail, Largehead	<i>Trichiurus lepturus</i>	37440004
Triglidae	<i>Chelidonichthys kumu</i>	Gurnard, Red	<i>Chelidonichthys kumu</i>	37288001
Triglidae	<i>Chelidonichthys sp.</i>	Gurnard	<i>Triglidae</i>	37288000
Triglidae	<i>Lepidotrigla argus</i>	Gurnard, Long-finned	<i>Lepidotrigla argus</i>	37288032
Triglidae	<i>Lepidotrigla modesta</i>	Grooved Gurnard	<i>Lepidotrigla modesta</i>	37288007
Triglidae	<i>Lepidotrigla spinosa</i>	Butterfly Gurnard	<i>Lepidotrigla spinosa</i>	37288028
Triglidae	<i>Pterygotrigla polyommata</i>	Sharp-beaked Gurnard	<i>Pterygotrigla polyommata</i>	37288006
Triglidae	<i>Lepidotrigla papilio</i>	Spiny Gurnard	<i>Lepidotrigla papilio</i>	37288002
Urolophidae	<i>Trygonoptera ovalis</i>	Stingaree, Striped	<i>Trygonoptera ovalis</i>	37038016
Uranoscopidae	<i>Ichthyoscopus insperatus</i>	Stargazer, Double-banded	<i>Ichthyoscopus insperatus</i>	37400012
Uranoscopidae	<i>Uranoscopidae</i>	Stargazer	<i>Uranoscopidae</i>	37400000
Uranoscopidae	<i>Uranoscopus bicinctus</i>	Stargazer, Marbled	<i>Uranoscopus cf bicinctus</i>	37400007
Uranoscopidae	<i>Uranoscopus cognatus</i>	Stargazer, Yellowtail	<i>Uranoscopus cognatus</i>	37400008
Uranoscopidae	<i>Ichthyoscopus barbartus</i>	Fringed Stargazer	<i>Ichthyoscopus barbartus</i>	37400002
Urolophidae	<i>Urolophus paucimaculatus</i>	Stingaree	<i>Urolophus paucimaculatus</i>	37038004
Urolophidae	<i>Urolophus sp3</i>	Masked Stingaree	<i>Urolophidae</i>	37038000
Urolophidae	<i>Urolophus sp4</i>	Masked Stingaree	<i>Urolophidae</i>	37038000
Veliferidae	<i>Metavelifer multiradiatus</i>	Veilfin	<i>Metavelifer multiradiatus</i>	37269001
Veliferidae	<i>Velifer hypselopterus</i>	Veilfin, High-finned	<i>Velifer hypselopterus</i>	37269002
Xiphidae	<i>Xiphias gladius</i>	Swordfish, Broadbill - General	<i>Xiphias gladius</i>	37442001
Zeidae	<i>Zeus faber</i>	John Dory	<i>Zeus faber</i>	37264004