



**ANALYSIS OF 2001 DINAS EXPORT PACKING LIST DATA BY SPECIES,
PRODUCT AND DESTINATION**

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Abstract

This paper provides information compiled by CSIRO/RIMF on the species composition, product and destination of tunas exported in 2001 from Bali, Indonesia. Data were extracted from export documents (including packing lists) which were provided by Dinas of Fisheries for Province of Bali after they had used them to provide monthly reports on exports to DGCF. It was determined that about 86% of the packing lists were recovered by CSIRO/RIMF by comparing DINAS aggregated tuna totals with the equivalent totals compiled by CSIRO/RIMF. There are inconsistencies between the categories of fresh and frozen tuna, and the dates of shipments recorded by Dinas and CSIRO/RIMF. In particular, analysis of the packing list data compiled by CSIRO/RIMF suggests that the component of whole tuna (all species) that is frozen is smaller (6.5%) than that recorded by Dinas (26.7%). Most whole frozen tuna species go to Japan and it is unlikely that this would be reject category tuna because of its low quality and the high costs of freight. The raising factor used by CSIRO/RIMF assumes that the export grade tuna monitored in processing rooms matches both the fresh and frozen whole tuna components in the Dinas export data. Our analysis of packing list data supports this assumption. If this assumption was not valid, the adjustment of the raising factor would be insignificant, as the frozen whole tuna is only 6.5% of the whole fresh and frozen tuna exported.

Tuna were documented in packing lists as albacore, bigeye tuna, southern bluefin tuna, yellowfin tuna and unspecified tuna. 106 tonnes of southern bluefin tuna were listed in 2001. Of this, 96.5 tonnes were specified as export to Japan. The TIS statistics provided by Indonesia on SBT exported to Japan in 2001 was 148 tonnes. This would suggest that only 65% of the packing lists were recovered by CSIRO/RIMF. The real percent probably lies between 86% (comparison with Dinas aggregated tuna) and 65% (comparison with TIS data for SBT export to Japan). The range of values adjusted by these factors would be 112-148 tonnes of SBT exported to Japan. It is more than the reported Japan import of SBT from Indonesia in 2001 of 77.5 tonnes (Attachment 9-3 of CCSBT9 Report). It is likely that in mixed shipments to Japan of specified tuna species, the amount of SBT is so small that it is not recorded on arrival in Japan. Out of 400 individual shipments to Japan in 2001 that included SBT, 250 contained less than 200 kg of SBT – one or two pieces.

A large quantity of tuna is exported as “tuna” – about 3,911-5,181 tonnes. Most of this goes to the USA (3,200 tonnes) and some to Japan (490 tonnes). SBT might be included in un-specified tuna exports. The CSIRO/RIMF monitoring of processors in 2001 estimated that 422 tonnes of southern bluefin tuna were graded as export quality. While some of this can be accounted in the packing list data, the remainder if exported, might be exported under the generic tuna description, or alternatively it is distributed to domestic markets.

1. Introduction

Within the collaborative research program between the CSIRO Division of Marine Research and the Research Institute of Marine Fisheries of Indonesia (RIMF) attempts have been made to obtain detailed information on the Dinas of Fisheries for

Province of Bali monthly exports of tuna. The fresh and frozen whole tuna categories aggregated by Dinas in the preparation of reports to DGCF have been used to determine a factor by which the catch monitored by CSIRO/RIMF is raised. It was considered useful to investigate the species specific information held in these packing lists and obtain some understanding of the nature of this information and the aggregation by Dinas. Additionally it was considered important to gain some insight into the export of SBT from the packing lists in order to explain the quite different estimates of export SBT derived by Japanese import statistics and estimates by the CSIRO/RIMF monitoring.

2. Packing List Data

Companies exporting fish are required to obtain an export permit for each shipment from the Provincial Fisheries Service, Laboratorium Pembinaan dan Pengujian Mutu Hasil Perikanan (Laboratory of Quality Control for Fisheries Products). They submit a packing list itemizing the content of each carton, usually by species. A Certificate of Quality is issued by the department. Documentation of up to 12 pages for each shipment is lodged with Dinas and comprises:

1. Health Certificate plus pathology report on product.
2. Company statement summarizing product, exporter, importer and destination.
3. Air Waybill including gross weight of the freight.
4. Packing list/invoice detailing contents of the shipment.

Dinas aggregates the packing list data by month according to product category with tuna species all combined. This information is required for monthly reports to DGCF. This is done manually from information in the packing list. The packing lists are sometimes separated from the rest of the export documentation during this process. The export documentation is usually recombined and re-stapled before storing in cardboard cartons in a storage room. There is a lack of infrastructure for the long-term archival of documents and the storage cartons are of varied origin and function.

The weights of products in these packing lists is considered to be accurate as all parts of the export documentation need to match up. In particular, the weights of goods on the Air Waybill must be accurate as this is the basis for charging air freight and it is easy to check that this matches the description in the packing list. However, it is unlikely that all cartons would be checked to see whether the species description of tuna matches the contents of that carton. There is also capacity to “hide” tuna species by describing contents as “tuna” and not by species.

3. Process of recovering specific information from individual packing lists

In January 2002, Dinas provided CSIRO/RIMF access to the original packing list documentation for 2001. These lists had been placed in cartons and stored in a spare room after Dinas had extracted the data aggregated into the product categories required to be reported to DGCF. These cartons were removed a few at a time and taken to the Research Institute for Mariculture at Gondol, where the data were

extracted and entered in a database. The cartons were then returned before further cartons were taken to Gondol for data entry.

The data recorded from each packing list are shown below:

Export Company

Export Date

Export Country

Export_items – Fish species, Product type, Weight, Price

If SBT is in packing list then detail:

Importer company name

Address

City

Fish species recorded were:

Fish no.	Species	Indonesian name
1	Bigeye Tuna	Bigeye Tuna
2	Yellowfin Tuna	Yellowfin Tuna
3	Bluefin Tuna	Bluefin Tuna
4	Albacore	Albacore
5	Marlin	Marlin
6	Broadbill Swordfish	Broadbill Swordfish
7	Lobster	Lobster
8	Grouper	Kerapu
9	Sea Weed	Rumput laut
10	Crab	Kepiting
11	Mackerel/bonito	Tongkil
12	Other fish	Lain lain
13	Ornamental fish marine	Ikan hias laut
14	Fish fry	Nener
15	Aquatic Plants	Tanaman laut
16	Sardine	Sardine
17	Shark	Hiu
18	Threadfin bream	Kurisi
19	Barramundi	Kakap
21	Ornamental fish freshwater	Ikan hias tawar
22	Milkfish	Bandeng
23	Turtle	Labi labi
24	Eel	Sidat
25	Sea cucumber	Tripang
26	Tuna	Tuna
27	Oilfish	Oilfish

Product types recorded were:

Product no	Product_type	Product Indonesian
1	Fresh whole	Segar
2	Frozen whole	Beku
3	Live	Hidup
6	Fresh loin/fillet	Loin segar
7	Frozen loin/fillet	Loin beku
8	Burger/ball	Burger/ball
9	Canned	Kaleng
10	Dried fin	Sirip kering

11	Smoked	Asap
12	Surimi	Surimi
13	Dried	Kering
14	Frozen fin	Sirip beku

4. Comparison of Dinas and CSIRO/RIMF compiled data

The first step in analysis was to determine what packing lists for 2001 were recovered from storage after it had been used by Dinas. This was necessary because of the haphazard nature of storing the documents and the separation of the packing list from export documents during Dinas processing. RIMF data entry staff had observed that the packing list is often missing from the documentation, although the Air Waybill, health certificate etc. are there. Sometimes these packing lists were found without the remaining documents. Data are only entered by CSIRO/RIMF from the packing list as the other documents do not provide species specific detail of the shipment. In order to determine what proportion of packing lists were not recovered, we aggregated the CSIRO/RIMF data according to the product categories used by Dinas in reporting to DGCF. The Dinas aggregated data are shown in Table 1 and the CSIRO/RIMF aggregated data in Table 2. To simplify comparison we have compared fresh, frozen and total tuna components in Table 3. According to the CSIRO/RIMF database 86.1% of the tuna appearing in the Dinas aggregates were recovered and entered for the whole of 2001. It will be shown in the following section on export destination by species that it is most likely that not all the data was recovered and that 86.1% is a conservative estimate of this shortfall.

However, there are inconsistencies between the categories of fresh and frozen tuna in various months recorded by Dinas and CSIRO/RIMF. In some months CSIRO/RIMF recorded more tuna than Dinas (total tuna in March and October). This would seem strange as it is contrary to what is expected from incomplete coverage. The difference is even larger for frozen tuna in January and March. Either Dinas or RIMF staff have made errors in compiling data. Because the CSIRO/RIMF data is in a database we have been able to check individual entries for duplication and for obvious errors in quantities and dates. As the Dinas compilation is manual it is not known whether back-checking is possible, and it is not known whether there is any verification of data entry. We would judge that the CSIRO/RIMF data entry is more reliable and checkable than the Dinas data in this regard.

One possibility is that the Dinas data compilation does not record the date of shipment and the packing lists are tallied in the month they are received/processed, rather than by the month of shipment. For example, the March frozen tuna (208.1%) is followed by 31.7% in April. On 28 March, 173 tonnes of frozen yellowfin tuna loin was shipped to Taiwan. It is likely that this packing list would have been processed at Dinas in April. Other differences seem to be more likely due to assigning the product frozen rather than fresh, or vice versa. While there are missing packing lists and discrepancies in categories/months that have been recorded, there is no reason to suggest that the species specific information contained in the CSIRO/RIMF database should be biased because some packing lists were not recovered.

5. Species composition of packing lists

The species specific information contained in the packing lists has been compiled in Table 4. The amount of recorded southern bluefin tuna itemised in these packing lists amounts to 106 tonnes in 2001. This clearly falls far short of the 422 tonnes of export grade SBT estimated from the CSIRO/RIMF catch monitoring in 2001 (Davis and Andamari - CCSBT/SC/0209/1). Assuming that 86.1% of the packing lists data were recovered and entered in the CSIRO/RIMF database (from Table 3) then the packing list specified SBT would have been up to 123 tonnes. This does not cover all of the 422 tonnes of export grade SBT estimated to be handled by processors by CSIRO/RIMF. Either, the balance is not exported, or it is exported under the generic tuna category on packing lists – this amounted to about 3368 tonnes or, based on 86.1% recovery of packing list data, 3,911 tonnes of unspecified tuna. Much of this unspecified tuna was exported in months of high SBT catches (Table 4). In an interview with Mr Nyoman Sarya, Director of PT. Sari Segara Utama in 2002, he stated that his company generally does not export “export grade tuna” because of the small profit margins after airfreight. Rather it is distributed within Indonesia. If any other companies followed this strategy to some degree, then some export grade SBT would not be exported or appear in packing lists or TIS documents. It would also mean that the CSIRO/RIMF raising factor used to estimate total catches, was underestimated by the proportion of export grade whole tuna (all species) not exported.

6. Export destination of tunas

The country of destination of tuna exports by species obtained from packing lists appears in Table 5. For SBT, most of it was exported to Japan and small amounts to Hong Kong and Greece. The TIS statistics provided by Indonesia on SBT exported to Japan in 2001 was 148 tonnes. This should match the quantity of SBT specified in packing lists for export to Japan. However, only 96.5 tonnes were in the CSIRO/RIMF database. This is 65% of the TIS amount. This would suggest that maybe less than 86.1% of the packing lists were recovered from Dinas.

The estimated export of SBT to Japan from the packing lists, after adjusting for 65-86.1% recovery of data, is 112-148 tonnes. The official Japan import of SBT from Indonesia in 2001 was 77.5 tonnes (Attachment 9-3 of CCSBT9 Report). Why does this differ from the packing list and TIS information? It is most likely that in mixed shipments of specified tuna species, the amount of SBT is so small that it is not recorded on arrival in Japan. Out of 400 individual shipments to Japan in 2001 that included SBT, 250 contained less than 200 kg of SBT – one or two pieces (Figure 1).

Of the unspecified tuna, estimated to be 3,911-5,181 tonnes, the majority (2890-3828 tonnes) is exported to the USA. About 386-510 tonnes are exported to Japan, and slightly less to Greece and Italy. SBT might be included in any of these un-specified tuna exports, or alternatively it is distributed to domestic markets in Indonesia.

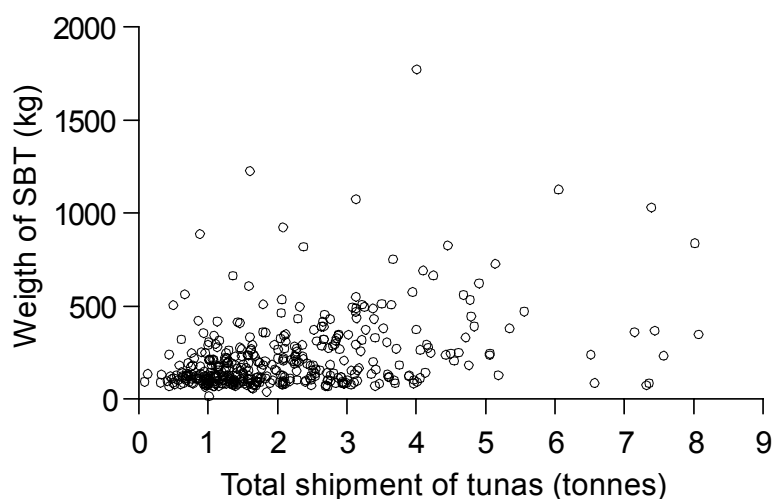


Figure 1. Weight of SBT plotted against total weight of tuna in shipments exported to Japan. One shipment of 9,975 kg of frozen loin SBT has not been plotted.

7. Product categories of exported tuna

In Table 6 we have broken up tuna species export by product. All whole SBT is exported fresh. Some is exported as frozen loin. One large shipment of 9.975 tonnes was sent to Japan in July 2001, presumably accumulated from reject SBT processed over the previous spawning season. The remainder went to Holland, Hong Kong, Malaysia and USA. The frozen loin component of SBT exports (19.41 tonnes) is not a part of the estimated export grade SBT recorded at the processing rooms by CSIRO/RIMF. So this would mean that the difference between CSIRO/RIMF estimates of export grade SBT and that recorded in packing lists is greater than considered in Section 5.

Analysis of the packing list data compiled by CSIRO/RIMF suggests that the component of whole tuna (all species) that is frozen is smaller (6.5%) than that recorded by Dinas (26.7%). Most of the frozen whole tuna is exported to Japan (389 tonnes). It is unlikely that this tuna would be from the reject category recorded by CSIRO/RIMF enumerators during monitoring in processing rooms, because of the low quality of the product and the high costs of freight. The raising factor used by CSIRO/RIMF assumes that the export grade tuna monitored in processing rooms matches both the fresh and frozen whole tuna components in the Dinas export data. Our analysis of packing list data supports this assumption, and even if this assumption was not valid, the adjustment of the raising factor would be insignificant as the frozen whole tuna is only 6.5% of the whole fresh and frozen tuna exported.

Table 1. Aggregated monthly packing list data (tonnes) for 2001 compiled by Dinas

Product	Product_name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	Tuna Segar	1288.8	1294.8	599.6	428.9	542.7	581.0	884.5	798.2	713.5	842.2	862.7	1291.2	10128.2
2	Tuna Beku	0.0	197.9	102.2	603.5	155.5	322.2	262.8	578.2	297.6	241.6	635.8	301.4	3698.5
3	Lobster Hidup	1.2	0.6	4.2	1.8	1.1	1.7	1.6	1.1	0.6	0.5	0.7	0.9	16.0
4	Lobster Beku	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Kerapu Segar	153.1	141.5	157.7	92.3	131.1	124.1	173.8	117.0	139.5	186.9	117.1	159.3	1693.2
6	Kerapu Beku	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	Rumput Laut	41.0	21.0	0.0	63.0	0.0	0.0	0.0	21.0	0.0	0.0	0.0	0.0	146.0
8	Swordfish (Segar)	86.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	86.7
9	Tuna Meat (Beku)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	Tuna Steak (Beku)	376.9	116.0	170.6	272.3	181.3	154.6	183.2	428.0	500.5	376.4	248.8	274.9	3283.2
11	Marlin (Beku)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	Tuna Loin (Segar)	0.0	0.0	36.5	33.5	23.8	27.6	22.8	46.5	79.0	80.9	87.8	42.0	480.5
13	Tuna Loin (Beku)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	Sirip Hiu Kering	4.0	0.0	1.3	0.0	0.0	0.1	0.0	3.8	0.2	0.0	0.0	0.0	9.3
15	Sirip Hiu Beku	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	Kakap Segar	0.4	0.0	0.1	0.0	0.0	0.0	0.0	13.1	1.0	12.9	8.9	7.9	44.3

Table 2. Aggregated monthly packing list data (tonnes) for 2001 compiled by CSIRO/RIMF from recovered packing list data.

Product	Product_name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	Tuna segar	218.82	414.06	593.90	478.99	422.21	383.79	724.39	752.73	755.45	1,260.20	902.10	1,158.78	8065.4
2	Tuna beku	0.00	14.33	0.00	0.00	56.58	29.08	0.80	182.47	0.00	195.77	64.70	20.59	564.3
3	Lobster hidup	0.6	1.9	0.7	1.3	0.0	0.5	0.4	0.2	0.2	1.3	0.0	0.2	7.4
4	Lobster beku	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.1	1.2
5	Kerapu segar	97.2	140.5	140.8	99.6	72.2	103.5	188.8	129.9	121.8	138.8	217.9	146.0	1597.2
7	Rumput laut	0.0	42.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.0
8	Swordfish segar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5
11	Marlin beku	0.0	0.0	0.0	0.0	0.8	1.8	0.0	0.0	0.0	6.0	0.0	15.4	24.0
12	Tuna loin segar	40.74	21.00	44.54	16.72	8.98	62.47	66.05	51.16	45.13	34.52	35.36	19.43	446.1
13	Tuna loin beku	805.26	271.92	567.73	277.28	131.34	432.57	534.02	712.32	353.36	575.24	860.32	554.11	6075.5
14	Sirip Hiu Kering	1.3					0.2				0.0		0.7	2.1
15	Sirip hui beku	0.0	0.0	0.0	0.0	0.0	0.0	10.8	0.0	0.0	0.0	0.0	0.0	10.8
16	Kakap segar	0.1	0.2	0.0	0.0	0.0	0.4	0.4	1.5	0.5	0.0	0.0	0.0	2.9

Table 3. Comparison of Dinas and CSIRO/RIMF aggregated total, fresh and frozen tuna component (tonnes) for 2001.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Fresh tuna													
RIMF	259.6	435.1	638.4	495.7	431.2	446.3	790.4	803.9	800.6	1294.7	937.5	1178.2	8511.5
Dinas	1288.8	1294.8	636.1	462.4	566.6	608.6	907.3	844.8	792.5	923.1	950.5	1333.2	10608.6
% recovered	20.1	33.6	100.4	107.2	76.1	73.3	87.1	95.2	101.0	140.3	98.6	88.4	80.2
Frozen tuna													
RIMF	805.3	286.3	567.7	277.3	187.9	461.7	534.8	894.8	353.4	771.0	925.0	574.7	6639.8
Dinas	376.9	313.8	272.8	875.8	336.8	476.7	446.0	1006.1	798.1	618.0	884.5	576.3	6981.7
% recovered	213.7	91.2	208.1	31.7	55.8	96.8	119.9	88.9	44.3	124.8	104.6	99.7	95.1
Total tuna													
RIMF	1064.8	721.3	1206.2	773.0	619.1	907.9	1325.3	1698.7	1153.9	2065.7	1862.5	1752.9	15151.3
Dinas	1665.7	1608.6	908.9	1338.1	903.3	1085.3	1353.3	1850.9	1590.6	1541.1	1835.0	1909.5	17590.4
% recovered	63.9	44.8	132.7	57.8	68.5	83.7	97.9	91.8	72.5	134.0	101.5	91.8	86.1

Table 4. Species specific information (tonnes) contained in packing list data for 2001 compiled by CSIRO/RIMF.

Tuna and billfish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Albacore	0.00	0.00	0.00	0.00	0.00	25.50	0.00	50.24	0.00	38.06	24.70	0.00	138.5
Bigeye Tuna	459.31	169.04	250.99	122.89	98.44	107.06	205.99	220.29	203.56	442.45	311.64	372.61	2,964.3
Bluefin Tuna	4.16	4.67	9.51	2.67	1.98	1.03	10.01	0.40	8.53	31.84	17.76	13.76	106.3
Swordfish	114.75	89.16	55.91	22.16	5.58	49.77	53.08	89.99	187.62	121.48	35.93	68.89	894.3
Marlin	39.23	41.76	33.60	30.46	17.17	64.83	39.58	33.22	49.00	41.66	21.07	28.04	439.6
Tuna unspec.	251.98	125.59	178.60	176.16	75.38	163.77	337.82	646.77	186.48	302.88	629.98	292.37	3,367.8
Yellowfin Tuna	349.37	422.01	767.06	471.27	443.31	610.55	771.44	780.98	755.36	1,250.51	879.76	1,074.17	8,575.8
Total	1,218.79	852.23	1,295.67	825.61	641.86	1,022.50	1,417.91	1,821.89	1,390.55	2,228.87	1,920.84	1,849.85	16,486.6
Fraction of tuna specified	0.76	0.83	0.85	0.77	0.88	0.82	0.75	0.62	0.84	0.85	0.66	0.83	0.78

Table 5. Country of destination by tuna species (tonnes) from packing lists in 2001.

Species	Albacore	Bigeye Tuna	Bluefin Tuna	Tuna	Yellowfin Tuna
Australia	0	0	0	0	7.6
Austria	0	0	0	8.69	25.09
Belgium	0	0	0	0	1.11
Canada	0	0	0	6.99	43.43
Czech Republic	0	0	0	0	21.35
China	0	0	0	0	0
Denmark	0	0	0	0.01	62.31
France	0	0	0	0.7	1.01
Germany	0	0	0	0	42.61
Greece	0	0.06	5.03	226.93	111.6
Holland	0	5.56	0	3.55	0.46
Hong Kong	0	0	4	79.15	50.46
Italy	25.89	0	0.17	106.17	12.69
Japan	13.92	2,942.24	96.5	331.79	5,997.47
Korea	0	0	0	0.01	0
Malaysia	0	0	0	0	0.24
Philippines	0	0	0	0.52	0
Poland	24.7	0	0	0	14.23
Russia	0	0	0	0.29	6.2
Singapore	0	0.32	0.21	32.6	58.87
Spain	0	0	0	0	15.68
Sweden	74	13.2	0	24.39	14.62
Switzerland	0	0.34	0	57.63	323.06
Taiwan	0	0	0	0.3	381.39
USA	0	2.53	0.41	2,488.07	1,384.33

Table 6. Product categories by which each species of tuna is exported in 2001.

Fish species	Fresh whole	Frozen whole	Fresh loin	Frozen loin
Albacore	0.00	88.65	0.00	49.86
Bigeye Tuna	2,455.36	116.20	2.00	390.70
Bluefin Tuna	86.72	0.00	0.19	19.41
Tuna	53.80	325.18	87.33	2,900.10
Yellowfin Tuna	5,469.54	34.30	356.57	2,715.39
Total	8,065.42	564.34	446.09	6,075.46