Government of Western Australia
Department of Fisheries

Fish for the future

Bulletin No. 51 June 2016

# COMMERCIAL FISHERIES PRODUCTION BULLETIN

## WESTERN ROCK LOBSTER FISHERY – 2015 SEASON

| Month | Zone A | Zone B | Zone C | TOTAL |
|---|---|---|---|---|
| **15-31 Jan 2015** | 83,191 | 304,029 | 322,724 | 709,944 |
| **Feb-15** | 443,402 | 287,845 | 508,311 | 1,239,558 |
| **Mar-15** | 186,832 | 121,090 | 339,055 | 646,977 |
| **Apr-15** | 59,774 | 145,801 | 327,210 | 532,785 |
| **May-15** | 155,836 | 225,252 | 376,192 | 757,280 |
| **Jun-15** | 43,275 | 62,429 | 159,586 | 265,290 |
| **Jul-15** | 27,136 | 67,668 | 178,313 | 273,117 |
| **Aug-15** | 15,083 | 61,117 | 121,936 | 198,136 |
| **Sep-15** | 30,286 | 117,815 | 152,281 | 300,382 |
| **Oct-15** | 13,276 | 49,822 | 52,713 | 115,811 |
| **Nov-15** | 17,342 | 111,765 | 166,966 | 296,073 |
| **Dec-15** | 4,491 | 299,044 | 225,180 | 528,715 |
| **1-14 Jan 2016** | 17,360 | 91,009 | 114,386 | 222,755 |
| **TOTAL (kg)** | **1,097,284** | **1,944,686** | **3,044,853** | **6,086,823** |

*Table 1. Catch by month and zone for the 2015 season (15 Jan 2015 to 14 Jan 2016)*

The above table presents preliminary catches by month and zone for the 2015 rock lobster season. The quotas for the various zones during the 2015 season were, Zone A 1,080 tonnes, Zone B 1,920 tonnes, and Zone C 3,000 tonnes. For the 2016 season the quota remains the same. After 5 years of fishing under an Individual Transferable Quota (ITQ) system it would be a fair comment to say that it has been successful and that generally rock lobster fishers enjoy the current system. There is no doubt that fishers have become "price sensitive", including fishing at specific times for particular high priced rock lobsters (grades). This has in large part been brought about by the high price of leasing pots, which many fishers are obliged to do, together with market demands for certain sized rock lobsters and timing, such as Chinese New Year. Approximately 95.8% of lobsters were exported live to China during the 2015 season, plus green tails 2.3%, whole cooked 1.5%, and whole green 0.7% to other destinations.

The 2015 season started (15/1/2015) off well, with extremely large catches throughout the fishery, particularly in Zones A and B. These large catches of migrating rock lobsters were in very deep water and continued for quite some time. However, one fisher commented that these exceptional catches were not entirely due to large numbers of lobsters, but also as a result of lower numbers of vessels fishing for them, viz. less competition resulting in greater catches per vessel. The number of boats fishing during the 2015 season was 231, a far cry from the 858 boats fishing in the 1964/65 season! Catches in other depths were also good, but nowhere near as spectacular as in deep water. Naturally catches in all depths varied throughout the fishery.

In the previous Commercial Fisheries Production Bulletin (Number 50) mention was made of the "marine heatwave" which occurred a number of years ago, resulting in the destruction of the demersal vegetation in the shallows, together with the abalone population in the Kalbarri area and further north. Recent anecdotal evidence from Kalbarri fishers indicates that the marine vegetation in the shallows is slowly returning and that good sized rock lobsters have been caught in the shallows, together with some puerulus coming up in the rock lobster pots. Sadly, the abalone have not to date returned to the reefs, but some restocking has taken place to help the stocks recover.

Throughout the fishery, recreational fishers have caught exceptionally well, both in the shallows and deeper water.

### THE CAPES, AUGUSTA/WINDY HARBOUR AREAS

During the early part of the season, Augusta/Windy Harbour rock lobster vessels did extremely well fishing in deep water out from Augusta. The catches, which lasted well into January, were comprised of medium grade lobsters. Following the decline in catches, the vessels moved to Windy Harbour and fished deep water for similar sized Western Rock Lobsters and some

Southern Rock Lobsters. Breeding animals, together with a few undersize, were present in both areas.

During the period that the two vessels did well in deep water out from Augusta, a vessel fished in similar depths and caught good quantities of lobsters just north of the Capes Line.

## RESEARCH DATA

Rock lobster fishers will be well aware that the Catch Disposal Record (CDR) book has been changed. In the previous book there was a voluntary section in which fishers could record research data. This voluntary section has now been deleted and replaced by a compulsory section, viz. "Number of lobsters high graded". This information is vitally important for stock assessment in determining the level of abundance (number of rock lobsters) present in the fishery. It is hoped that fishers will embrace this request and record the numbers of discarded rock lobsters as accurately as possible.

To those fishers who voluntarily provided research data in the previous CDR book, please accept sincere thanks from the research team. You can be assured that your efforts were well and truly appreciated. If you would like to discuss the research program, or the fishery generally, feel free to drop into the Laboratories at Hillarys for a chat (tea and coffee free) or simply phone 9203 0111 and speak with Mark Rossbach or Eric Barker.

## BIG BANK/CLIFFS AREA (NORTH OF KALBARRI)

During the months of March through to September 2015, exceptionally large catches of lobsters were taken by boats north of Kalbarri. The area in question was from South Passage south to The Cliffs (this area is not within the Big Bank closed area). The depths that the lobsters were caught ranged from 10 to 50 fathoms. One rock lobster fisher commented that the catches in the above area were the best ever!

The overriding opinion of fishers was that the lobsters were part of the Big Bank deep water run that moved in an easterly direction towards the coast. Some non-fishing readers of this bulletin might be interested to know that Big Bank is a series of submerged reefs stretching north from the Northern Abrolhos Line (27°30'S). These offshore reefs vary in depth, with the shallowest depth being approximately 24 fathoms in the northern part of the reef system.

The area has been fished for rock lobsters over many years with varying levels of catch, however from the mid-eighties large catches of migratory lobsters were taken each year in very deep water west of the Big Bank reefs. These migratory lobsters were a continuation of the deep water run of 'whites' out of the Abrolhos Islands, which occurs each year during late February and March.

## FRDC TAGGING PROJECT UPDATE

With much appreciated help from commercial fishers and funding from the Fisheries Research and Development Corporation (FRDC) more than **30,000** lobsters have been tagged since August 2014. This joint project between the Department and the Western Rock Lobster Council aims to develop baseline information on lobster biomass and exploitation rates in a quota-based fishery.

Almost **700** tagged lobsters have already been recaptured and reported by **190** commercial and recreational fishers. Reporting recaptures allows researchers to assess the impact of high-grading and determine exploitation rates as well as many other important factors such as lobster growth, mortality and movement, which will all aid in the continued sustainability of lobster stocks.

## CASH PRIZES FOR TAGGED LOBSTERS

In addition to a "Scratch-n-Win" ticket, all tags returned before June 2016 will go in the running for annual cash prizes. Another **$5,000 worth of cash prizes** are now up for grabs so please continue to keep the recaptures rolling in.

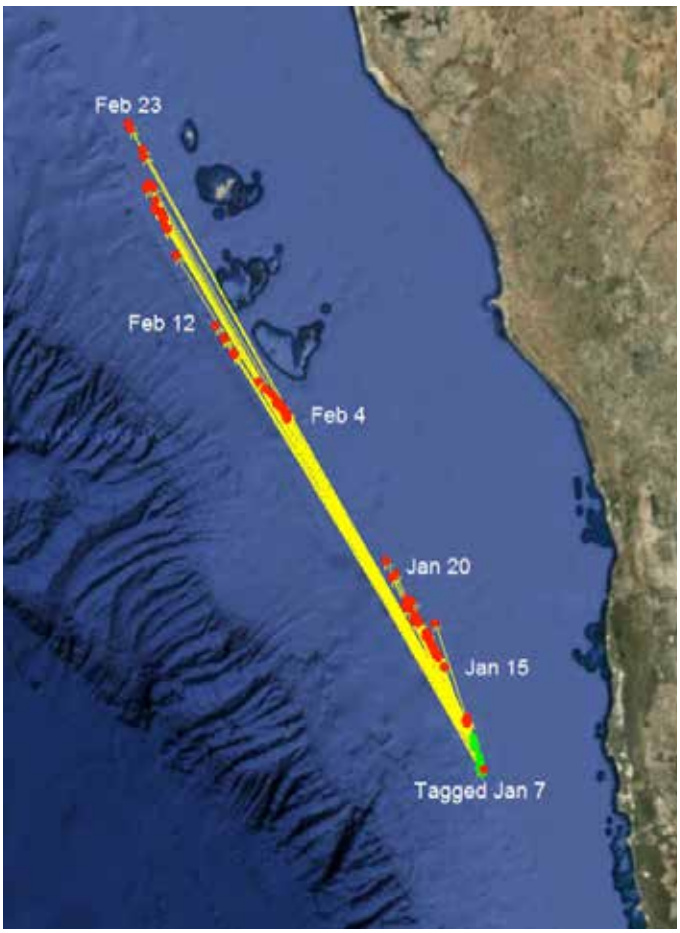
## FISHTAGWA APP NOW UPDATED

The tagging app has now been updated to fix a few early bugs in the program so why don't you download the new version of **FishTagWA** from iTunes and give it a go?

You can still return tag info by mail, phone, email lobster.tag@fish.wa.gov.au or simply write down the details in your CDR comments. The most important information is the tag number, the date and an accurate location. Size, depth and if kept or released are also useful.

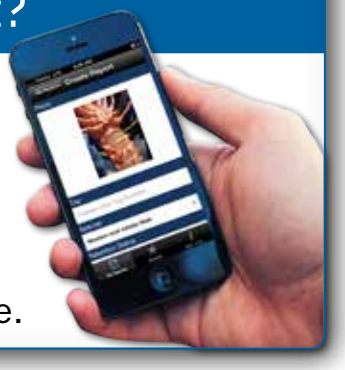
## INTERESTING LOBSTER MOVEMENTS

This year an effort was made to tag migrating whites in deep water. The map shows the subsequent recapture locations for lobsters released in 85 fm out from Jurien on 7th Jan 2016. The 87 recaptures (from 16 fishers) demonstrated a relatively consistent migration rate of between 4 to 5 km/day.




*Map showing the recapture locations (red) of 87 whites released in 85 fm off Jurien in January*





## PUERULUS SETTLEMENT

To date the puerulus settlement during the current 2015/16 collection season (May 2015 to April 2016) has shown an increase in settlement at all sites compared to the previous settlement period. Settlement in the Warnbro, Alkimos, Lancelin and Jurien sites are above their post 2006 averages. The northern areas of Port Gregory, Dongara and Abrolhos sites also showed a similar trend. These results indicate that a stronger year class will be coming into all parts of the fishery in 3-4 years, particularly the 2019 season.

The latest puerulus settlement information for 2015/16 is available on the Department of Fisheries web site (see address below), to enable all WRL stakeholders to access the latest information in a timely manner. This information will be updated within ten days of the team returning from the field. The puerulus collections are carried out five days either side of the full moon.

http://www.fish.wa.gov.au/Species/Rock-Lobster/Lobster-Management/Pages/Puerulus-Settlement-Index.aspx

The research section has started to investigate a deep-sea puerulus collector developed by the Institute for Marine and Antarctic Studies in Tasmania, to determine its applicability for our fishery. These prototype collectors have been successfully deployed, retrieved and serviced by commercial vessels in Tasmania. It is envisaged that the Tasmanian deep water collector system with some modification could be deployed to collect Western and Southern Rock Lobster pueruli and deep-sea crab megalopae, thus improving catch predictions in these fisheries. Information such as this would improve our understanding on stock levels and appropriate harvest rates.


After some modifications the new collector was installed in shallow water at the Jurien puerulus collector site in 2015. Results were positive showing puerulus settled in this style of collector and research will be shortly be deploying the collector with the aid of a commercial fisher in deeper waters.

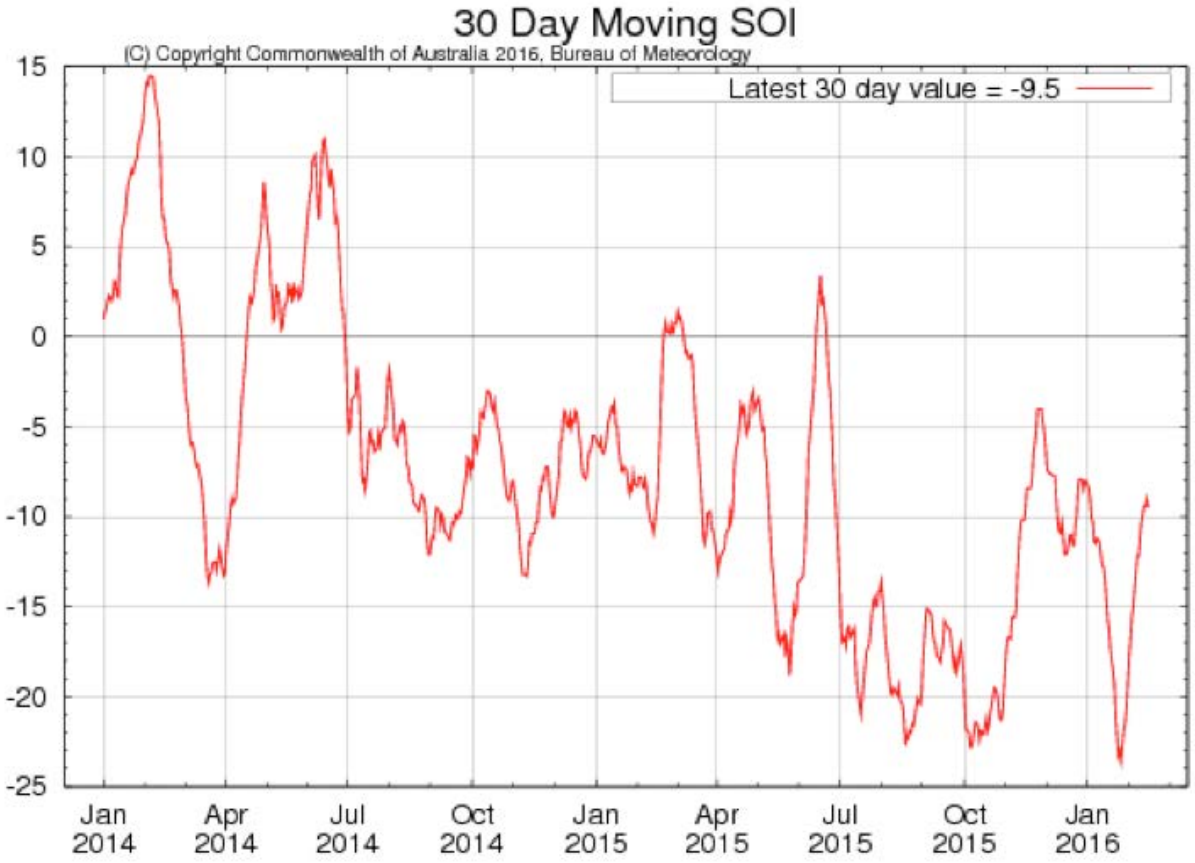



*Figure 1: Southern Oscillation Index since Jan 2014 until Feb 2016 (data supplied by the Australian Government - Bureau of Meteorology).*

## SOI UPDATED: EL NIÑO SLOWLY WEAKENING

*Issued on 16 February 2016*

The 2015–16 El Niño continues its gradual decline. Sea surface temperatures in the tropical Pacific Ocean are cooling, and beneath the surface, cooler-than-average waters are advancing into the eastern Pacific. The atmosphere is also showing some signs of a declining El Niño. Trade winds are now the strongest they have been in nearly two years, though may weaken again briefly in the coming fortnight. El Niño conditions are typically associated with cooler water temperatures but this year water temperatures have been about average.

Based on the 26 El Niño events since 1900, around 50% have been followed by a neutral year, and 40% have been followed by La Niña. International climate models suggest neutral is most likely for the second half of the year. However, La Niña in 2016 cannot be ruled out, and a repeat El Niño appears unlikely.

The Indian Ocean Dipole has little influence on Australian climate between December and April. However, Indian Ocean sea surface temperatures remain very warm across the majority of the basin which may provide extra moisture for rain systems across Australia.

The southern hemisphere Indian Ocean remains at record warm levels, with January 2016 adding to the string of record warm months observed since mid-2015.

## INDEPENDENT BREEDING STOCK SURVEY

In 2015 the Independent Breeding Stock Surveys (IBSS) were conducted at all sites during the ten-day period over the new moon in September and October. Two months are now used for these surveys as they are very staff and resource intensive. Each survey at each location uses a standardised sampling procedure (e.g. same pots, bait and fishing spots) so that each year's results are comparable to that of the previous years in that location. Surveys are conducted by commercial fishers with research staff on-board, and every lobster caught is carefully measured and recorded, including making note of its size, sex, condition (moult stage and damage) and reproductive stage (setose, carrying eggs, and what stage the eggs are).

Fishers who conduct the survey are chosen through a tender process each season. This allows new interested fishers to apply if they are keen. Currently we allow fishers to choose whether they keep some of the catch to submit as their quota. 2015 was the first year in

quite some time since we have received successful tenders for all IBSS sites, so thank you to all who showed a willingness to help. Hopefully this level of enthusiasm continues into future seasons.

At the time of writing, Dongara and Lancelin sites have yet to be entered into the database for analysis due to the large number of lobsters measured in 2015 and the increased workload of entering the information on tagged lobsters (over 30,000 lobsters in the past two years). For the sites that have been entered (Fremantle, Jurien, Kalbarri, Big Bank and Rat Island) a slight decline was seen at all sites except Big Bank, where the index increased, however the general level of egg production was still way above those pre-2010. These slight drops were not totally unexpected since the very low 2008 and 2009 puerulus settlements are starting to become mature now and are contributing relatively little to the breeding stock.

Another compounding factor for the slight decline in the egg production indices was the catchability of lobsters during the 2015 survey. Preliminary tag-recapture data from the Leeman and Big Bank closed areas indicated that the catchability of lobsters during the 2015 survey was lower than that during the previous year's (2014) survey. This lower catchability would cause an apparent decline to occur in the indices.

## WHALE ENTANGLEMENTS

Last season we saw a return to the historic low levels of whale entanglements with only two entanglements confirmed in western rock lobster gear. This was a fantastic result and is a testament to industry's commitment to modifying their fishing methods to reduce their interactions with the migrating humpback whales. A slight change to the gear modifications is likely and information will be out soon regarding this. However, there is a chance that entanglements may increase in future years due to a change in where the whales are migrating compared to fishing effort. We still know very little about which depths humpbacks migrate through. Last year we asked fishers to 'survey' the whales as they steamed back from their pots. This was done with the whale sightings app which was developed with FRDC funding. Feedback from fishers saw a modified app being developed which made these surveys easier to complete. In future bulletins this app, and how to download and use it, will be explained. Please take the time to use the app as all information we gain allows us to better tailor gear modifications to reduce entanglements and the impact on fishers.

## EARLY 2016 SEASON REPORT (2015 REVIEW)* – WEST AUSTRALIAN LOBSTER INDUSTRY

With all Australia lobster fisheries now operating under limited quota management schemes, %'s of production towards anything other than live exports to China have continued their trend to decline and in many markets largely disappear.

**Reported WA Lobster Commercial Production**

| Season | 2009<br>Jan 1 – Dec 31 | 2010<br>Jan 1 – Dec 31 | 2011<br>Jan 1 – Dec 31 | 2012<br>Jan 1 – Jan 14 | 2013<br>Jan 15 – Jan 14 | 2014<br>Jan 15 – Jan 14 | 2015<br>Jan 15 – Jan 14 |
|---|---|---|---|---|---|---|---|
| Whole Cooked | 1,494,444 | 1,097,879 | 639,639 | 346,191 | 314,233 | 187,855 | 76,222 |
| Whole Raw | 336,050 | 371,690 | 93,700 | 100,330 | 49,860 | 26,060 | 8,800 |
| Raw Tails | 1,178,337 | 569,265 | 339,798 | 216,704 | 240,280 | 169,725 | 139,081 |
| Whole Live | 3,677,482 | 3,145,103 | 3,335,930 | 4,338,198 | 4,566,519 | 5,148,333 | 4,873,653 |
| Total Kgs | 6,686,313 | 5,183,937 | 4,409,067 | 5,001,423 | 5,170,893 | 5,531,973 | 5,097,756 |

* As reported by Major Commercial Processors

| Australia Export Statistics | | | | | |
|---|---|---|---|---|---|
| **Frozen Spiny Lobster (all species)** | | | | | |
| **Calendar Year: 2012 – 2015** | | | | | |
| **Importing Country (Top 10)** | **Unit** | **Quantity** | | | |
| | | **2012** | **2013** | **2014** | **2015** |
| **World** | **KG** | **542,190** | **402,640** | **329,768** | **278,181** |
| United States | KG | 208,137 | 182,337 | 136,216 | 134,693 |
| Taiwan | KG | 51,626 | 42,689 | 102,895 | 37,259 |
| Japan | KG | 202,991 | 148,463 | 65,199 | 72,894 |
| NZ | KG | 1,050 | 1,574 | 1,830 | 4,895 |
| Singapore | KG | 5,150 | 0 | 0 | 3,327 |
| France | KG | 5,833 | 0 | 0 | 3,100 |
| Mauritius | KG | 9,020 | 0 | 0 | 0 |
| Belgium | KG | 5,315 | 0 | 0 | 0 |
| HK / China | KG | 52,543 | 19,894 | 17,866 | 13,501 |
| Malaysia | KG | 0 | 3,380 | 0 | 0 |

*Japan*

The Japanese lobster market continues to decline for spiny lobster, with WA lobster now largely absent.

Whilst regular enquiries are received for frozen red A/B cooked and raw, producers rarely have stocks available for offer or can work at viable levels. A larger % of the exports to Japan are now noted to be made up of frozen lobster heads as a byproduct of the tail products

| Japan Import Statistics - Spiny Lobster (By Arrival Month) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Country of Origin (Top 12)** | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** |
| Philippines | 105,103 | 125,882 | 82,208 | 101,259 | 99,125 | 105,206 | 87,285 | 95,055 | 65,845 |
| Indonesia | 394,992 | 119,013 | 54,154 | 79,236 | 39,560 | 134,380 | 145,691 | 20,524 | 45,388 |
| India | 373,690 | 151,446 | 230,816 | 277,280 | 291,080 | 153,670 | 181,070 | 123,300 | 128,561 |
| USA | 113,600 | 60,930 | 48,100 | 96,497 | 94,267 | 87,670 | 41,372 | 24,477 | 50,100 |
| Cuba | 326,612 | 227,912 | 386,306 | 298,858 | 301,500 | 208,928 | 224,837 | 222,525 | 174,350 |
| Brazil | 36,299 | 126,447 | 50,846 | 57,253 | 91,376 | 100,272 | 158,913 | 71,276 | 59,367 |
| France (St Pauls) | 310,520 | 283,560 | 218,910 | 394,935 | 333,780 | 314,550 | 306,470 | 263,170 | 162,030 |
| Tristan | 104,998 | 54,900 | 101,130 | 120,490 | 65,000 | 175,456 | 157,962 | 79,073 | 156,414 |
| Madagascar | 186,745 | 101,123 | 77,200 | 128,700 | 141,810 | 104,546 | 135,545 | 116,417 | 153,762 |
| Namibia | 159,950 | 218,270 | 158,950 | 54,480 | 180,190 | 124,380 | 167,420 | 152,140 | 188,310 |
| South Africa | 618,225 | 274,520 | 272,020 | 265,438 | 303,708 | 253,675 | 189,859 | 210,802 | 108,052 |
| **Australia** | **643,440** | **687,217** | **450,108** | **271,888** | **256,573** | **159,839** | **122,318** | **56,006** | **34,953** |
| **Total World** | **3,573,626** | **2,494,689** | **2,175,073** | **2,201,712** | **2,225,524** | **1,983,089** | **1,937,586** | **1,451,867** | **1,384,525** |

*Taiwan*

The market for frozen lobster in Taiwan (both spiny and Homarid) remains quite reasonable with stable import volumes over recent years, all except for the higher priced Australian species which appear to have now almost disappeared, with the exception of a few containers and air shipments that could be counted on one hand.

Imports of whole frozen from the Caribbean continued to increase with more options of whole cooked & whole raw being seen from newer players such as Nicaragua, Honduras, Belize, Brazil and Honduras.

*Hong Kong/China*

The 'Year of the Sheep' was a relatively subdued year for Chinese celebrations as people preferred where possible to put off some major celebrations and eagerly awaited the coming Year of the Monkey 2016.

As average live lobster prices continued to rise, so has the market volatility.

Major China market influences over 2015 were most certainly the ever increasing volumes from US and Canadian Homaris live and frozen supplies, as well as the cheaper Caribbean products now a major market competitor.

Homarid lobsters, both frozen and live being shipped direct to China at prices a fraction of those from Australia continue to build market share. Although now in great volumes, competition with Australian lobsters sold as premium species is barely noticed.

With the Australian/China Free Trade Agreement (FTA) now in place and working, and duties steadily easing down, direct shipments to China are expected to gain pace as exporters look to spread risks and legitimize channels.

| **Reported WA Lobster Commercial Production of LIVE LOBSTER (Full Season)** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** |
| **Season** | **Jan 1 – Dec 31** | **Jan 1 – Dec 31** | **Jan 1 – Dec 31** | **Jan 1 – Jan 14** | **Jan 15 – Jan 14** | **Jan 15 – Jan 14** | **Jan 15 – Jan 14** |
| % of catch | 55.00% | 60.67% | 75.66% | 86.74% | 88.31% | 93.07% | 95.60% |
| Total (kg) | 3,677,482 | 3,145,103 | 3,335,930 | 4,338,198 | 4,566,519 | 5,148,333 | 4,873,653 |

*As reported by Major Commercial Processors*

*USA*

The market for WA tails within the US is now considered as niche, with extremely limited and inconsistent volumes available, making major restaurant groups reconsider this item with most cold water consumption now focused on the larger tail productions from south coast South Africa (*P. gilchristi*) and Tristan (*Jasus tristani*). Unmet market capacity for WA Lobster tails remains across many sizes with highest returns for sizes C and D.

| **Reported WA Lobster Commercial Production of LOBSTER TAILS (Live Whole Weight / kg)** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **SIZE** | **2009 Jan 1 – Dec 31** | **2010 Jan 1 – Dec 31** | **2011 Jan 1 – Dec 31** | **2012 Jan 1 – Jan 14** | **2013 Jan 15 – Jan 14** | **2014 Jan 15 – Jan 14** | **2015 Jan 15 – Jan 14** |
| A | 69,586 | 32,373 | 26,421 | 9,284 | 11,915 | 14,396 | 6,239 |
| B | 523,575 | 215,095 | 90,152 | 53,046 | 64,019 | 65,663 | 54,382 |
| C | 291,949 | 153,100 | 69,913 | 41,981 | 44,603 | 30,757 | 26,375 |
| D | 216,697 | 112,426 | 93,183 | 53,374 | 42,096 | 29,233 | 26,981 |
| E | 44,513 | 30,241 | 32,108 | 24,570 | 34,234 | 14,885 | 14,527 |
| F | 15,202 | 15,962 | 15,270 | 16,986 | 20,394 | 7,409 | 5,987 |
| G | 12,169 | 9,365 | 8,490 | 13,040 | 19,125 | 6,086 | 4,363 |
| H | 4,647 | 702 | 4,262 | 4,424 | 3,895 | 1,297 | 227 |
| Total Live | 1,178,337 | 569,265 | 339,919 | 216,704 | 240,280 | 169,725 | 139,081 |
| Output | 471,335 | 227,706 | 135,968 | 86,682 | 96,112 | 67,890 | 55,633 |

*As reported by Major Commercial Processors*

| United States Import - Frozen Lobster (kg) | | | | | |
|---|---|---|---|---|---|
| Calendar Year: 2011 – 2015 | | | | | |
| **Country** | **Quantity** | | | | |
| | **2011** | **2012** | **2013** | **2014** | **2015** |
| Nicaragua | 1,818,040 | 1,644,292 | 1,669,497 | 1,620,535 | 1,857,128 |
| Brazil | 2,216,248 | 1,449,995 | 1,659,393 | 1,622,371 | 1,413,722 |
| Bahamas | 1,387,517 | 1,782,408 | 1,473,864 | 1,228,083 | 1,457,576 |
| Honduras | 1,658,578 | 1,698,365 | 1,425,566 | 1,285,636 | 1,646,668 |
| South Africa | 282,372 | 199,284 | 362,588 | 362,742 | 286,171 |
| Spain | 219,735 | 193,092 | 341,437 | 65,764 | 72,049 |
| Dominican Republic | 332,276 | 328,871 | 260,814 | 181,653 | 228,094 |
| Australia | 333,501 | 186,860 | 205,741 | 178,281 | 114,779 |
| Belize | 235,763 | 195,822 | 182,904 | 200,286 | 192,170 |
| St. Helena | 121,281 | 117,945 | 142,039 | 137,889 | 103,336 |
| Jamaica | 63,314 | 96,485 | 108,200 | 101,381 | 113,250 |
| United Arab Emirates | 74,070 | 28,620 | 107,081 | 46,621 | 46,905 |
| Panama | 108,347 | 103,707 | 105,979 | 76,469 | 55,474 |
| Colombia | 128,665 | 112,267 | 96,292 | 89,222 | 106,064 |
| Sri Lanka | 0 | 68,236 | 72,029 | 10,198 | 0 |
| New Zealand | 23,285 | 17,953 | 58,287 | 79,097 | 80,148 |
| Turks & Caicos Islands | 46,719 | 30,378 | 25,474 | 32,848 | 36,289 |
| Papua New Guinea | 28,917 | 24,018 | 24,676 | 14,322 | 0 |
| Ecuador | 16,408 | 19,470 | 23,899 | 7,448 | 1,899 |
| **Total World Supply to USA** | **9,893,450** | **8,856,680** | **9,192,180** | **8,220,614** | **8,714,455** |

Source of Data: U.S. Department of Commerce, Bureau of Census

NOTE: DATA DOES NOT INCLUDE CLAWED SPECIES (*Homarus* Sp.)



***This information was supplied by Mr Greg Hart of Wild Oceans Pty Ltd,**
**Suite 4, 18 Parry Street Fremantle, WA 6160 T: (08) 9433 6785 F: (08) 9335 8478 www.wildoceans.com.au**

**Except where acknowledged, the information in this bulletin has been supplied by the FISHERIES RESEARCH DIVISION of the DEPARTMENT OF FISHERIES (WA). Contact Mr Eric Barker or Mr Mark Rossbach T: (08) 9203 0111 F: (08) 9203 0199.**

1054/16 JUNE 2016