



COMMERCIAL FISHERIES PRODUCTION BULLETIN

WESTERN ROCK LOBSTER FISHERY – 2013 SEASON

FISHERY SEASON TO DATE

Preliminary production figures, by month and zone for the 2013 season are listed below:

	Zone A	Zone B	Zone C
Jan 2013 (15-31 Jan)	193428	147873	137282
Feb 2013	367390	157381	242303
Mar 2013	131568	138928	432819
Apr 2013	114096	185994	450115
May 2013	155258	320988	291789
Jun 2013	70392	164470	163143
Jul 2013	13169	81327	101315
Aug 2013	17472	54248	58616
Sep 2013	12202	55086	46471
Oct 2013	8103	47446	26335
Nov 2013	3571	87042	113754
Dec 2013	800	438752	401032
Jan 2014 (1-14 Jan)	8488	65077	66340
TOTAL (kg)	1095937	1944612	2531314

As expected, catches declined gradually throughout all zones until October, then rose with the start of the ‘whites’ in late November. This progressive decline in catches contributed largely to maintaining a high beach price, viz. supply and demand, together with demand periods in China. Anecdotal comments from fishers suggest that generally they were happy with the level of catch rates. Catch rates this season under the current Total Allowable Catch (TAC) system of managing the fishery are influenced by a number of factors, viz. carry-over of product from previous seasons, high grading to maximise price and a major reduction in the size of the fleet in recent seasons, which of course results in a greater catch per boat. Sea temperatures and growth of rock lobsters probably also play a part.

Catches of both size and undersize in the shallows improved marginally, the result of improved settlement in 2010/11.

The catch rates of rock lobsters in the 2013 Independent Breeding Stock Survey (IBSS) were good, however some areas were down, although the numbers were well above the long-term average.

For further general comments on the progression of the 2013 season, see Commercial Fisheries Production Bulletin No. 48, June 2013.

THE CAPES, AUGUSTA/WINDY HARBOUR AREAS

Very little, if any, commercial fishing has been carried out in the Capes area in recent times. However, it would appear that recreational fishers, both divers and pot fishers, have been taking good catches of ‘whites’ in the inshore areas. Divers have also sighted undersize, which is indicative of recent puerulus settlement in the area. Commercial catches of rock lobsters have been taken in the inshore waters adjacent to Augusta. These catches also include a few undersize, once again the result of puerulus settlement into the shallows. Catches in deep water have been poor.

RESEARCH DATA

Our sincere thanks go out to all those fishers (approximately 18%) who recorded research data on the bottom of their CDR forms.

The participation rate is somewhat low and naturally we would like to increase the number of fishers providing information on the breeding stock, undersize, high grading, etc. It goes without saying that our appetite for research is insatiable!

Please ‘have a go’ and if you would like to discuss the program, amongst other things, please feel free to drop into the Laboratories at Hillarys (tea and/or coffee free) or simply phone on 92030111 and speak with either Mark Rossbach or Eric Barker.

PUERULUS SETTLEMENT

Puerulus settlement during the current 2013/14 collection season (May 2013 to April 2014) has increased dramatically and returned to the upper end of the historical range in all coastal sites. The Abrolhos site has also improved but is at the lower end of the historical range, but because the Abrolhos typically peaks after the coastal sites, there is still time for the Island's site to improve during the remainder of the season.

Port Gregory, Dongara, Jurien and Lancelin are all well above the upper end of the historical range, while Alkimos, Warnbro and Cape Mentelle are within the "normal" range but above the long-term average.

These results indicate that a very strong year class will be coming into the fishery in 3-4 years, particularly the 2017 season. This return to higher abundance of new recruits is likely to be experienced across the whole fishery, including the southern zone, which historically is more sensitive to puerulus settlement variation.

The latest puerulus settlement information for 2013/14 is available on the Department of Fisheries website (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>

This return to high levels of puerulus is also of great scientific interest to the research team from Fisheries and CSIRO, which has been collaborating in an FRDC project to identify the causes of the devastating collapse in settlement that occurred between 2006/07 and 2012/13. It is worth noting that this settlement collapse initially started when breeding stock levels were within historic ranges across all areas of the fishery, except Big Bank. By 2010 the breeding stock was well above average in all areas, but settlement remained below average during this period. This effectively ruled out the breeding stock as the major cause of the extended period of reduced settlement. The collapse also occurred when strong Leeuwin Currents and increased water temperatures occurred in 2008 and 2011 despite above-average settlement having been associated with these conditions previously. Some other factors were clearly at play.

Our investigation into the puerulus downturn has identified that when the spawning started early (temperature driven) and was coupled with low numbers of autumn and winter storms (measured by rainfall), the puerulus settlement was significantly lower and this matched the recent lows. These factors combined were able to explain 72% of the variation in historical puerulus settlement up to 2012/13, including the record low settlement of 2008/09.

We think that the recent shift to earlier spawning/hatching has caused a mismatch with other environmental factors such as peaks in ocean productivity and/or storms (westerly winds) that assist the larvae return to the coast. For example, earlier spawning may have allowed the larvae to grow more rapidly over the summer, so that they were still well away from the coast when ready to moult to puerulus and settle. With this occurring before the onset of the winter storms and the swell conditions needed to transport them close enough to the coast to successfully settle, they appear to have simply perished in the open sea.

The good news is that this spectacular increase in settlement in 2013/14 has now provided a "natural experiment" to test the impact of these newly identified environmental factors. The fact that both a later breeding season in 2012 and the very frequent storms in 2013 corresponded to very high settlement has now provided support for these factors being the main cause of the very low puerulus survival since 2006/07. This new information from the comprehensive FRDC/Department-funded research project will be available shortly on the WA Fisheries website for anyone interested in more detail about the work.

As with all of this cutting edge research, additional years will be required to see whether this new relationship continues, and whether this return to weather patterns reminiscent of earlier decades is a one off or the start of a cycle back towards more favourable environmental conditions for lobster settlement. Our thanks to Dr Jim Penn for his contribution in this report and to those scientists who worked on the FRDC/Department-funded research project.

SOI UPDATED – ENSO-NEUTRAL CONDITIONS TO CONTINUE INTO AUTUMN

The El Niño-Southern Oscillation (ENSO) remains in a neutral state (neither El Niño nor La Niña). Climate models suggest an ENSO-neutral state to persist until at least the end of the austral autumn, with some warming of the tropical Pacific likely. While most ENSO indicators are neutral, strong westerly winds currently over the far western tropical Pacific may lead to some warming of the tropical Pacific Ocean in the coming weeks.

Most climate models surveyed by the Bureau suggest the tropical Pacific Ocean will warm through the southern autumn and winter. Some, but not all, models predict this warming may approach El Niño thresholds by early winter. Model outlooks that span autumn have lower skill than forecasts made at other times of the year, hence long-range model outlooks should be used cautiously at this time.

The Indian Ocean Dipole is typically too weak to have a significant influence on the Australian climate from December to April.

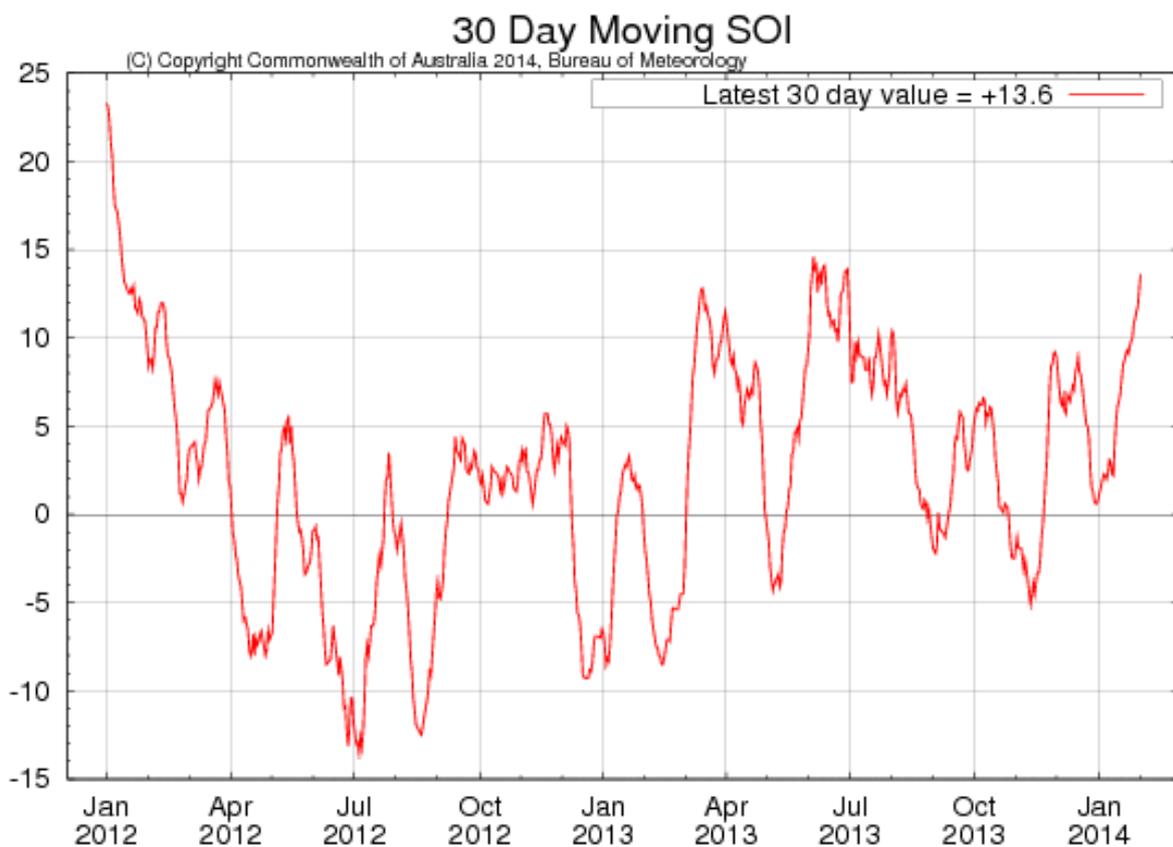


Figure 1. Southern Oscillation Index since Jan 2012 until Feb 2014 (data supplied by the Australian Government-Bureau of Meteorology).

REPORTING TAGGED LOBSTERS



The Department has recently launched a new iPhone app to aid in the return of tagged animals, including lobsters. This app is designed to make the whole process of submitting your tag recapture far easier. The app is called FishTagWA and can be downloaded from the app store. Just Google FishTagWA or type "<https://itunes.apple.com/au/app/fishtagwa/id785910062?mt=8>" into your browser.

Using FishTagWA to report tagged fish is easy – simply Create Report and follow the instructions such as:

- **Take a photo** – that shows the tag in the animal/fish.
- **Date** – The current date automatically appears but can be changed
- **Tag number** – So we can identify the animal/fish
- **Breeding status** (rock lobster and crabs only) – We need to know what stage of the breeding cycle the tagged animal is at. The Species screen will assist you in identifying this information if you are unsure.
- **Fish/animal released or retained** – To let us know if you release the fish/animal back to the water or if you kept it
- **Size** – This will help us work out how much the animal/fish has grown since it was released. Guides are provided to show you how to accurately measure a rock lobster, crab and fish
- **Location** – This provides us with information as to how far the animal/fish has moved since it was released. You can either use your current location, or, if you move away from where you caught the fish/animal, please record the position of where it was caught. Your fishing details will remain confidential.

We are also asking you provide your contact details. Your details will enable us to report back to you about how far the animal/fish has moved and how much it has grown.



MESH POT TRIAL

Welcome to the 2014 season, and as I am sure you are all aware by now, a much improved puerulus settlement. This is relevant to the meshed pot program as it started during the unexpected low puerulus settlement of 2007, in an attempt to understand the possible extent of deep water settlement.

While this has been shown a number of times, I thought it important to show again the extent of deep water settlement (>20 fathoms) that has occurred relative to that in shallow waters as measured by the small mesh pots. Most of the smaller lobsters (<50 mm) caught have been captured in the shallows and teens (Figure 2). This has been a consistent feature of the meshed pot data.

The meshed pot catch rates of small lobsters in the last five seasons in the shallows (<20 fathoms) display a marked change in the abundance of undersize lobsters (Figure 3). While catch rates aren't directly comparable due to the changes in fishing patterns over these seasons, it is still very clear that there has been an increase in the abundance of very small lobsters in recent seasons. This is reflective of the improved settlement that we have seen since 2010, which would start to appear as 40+ mm lobsters in the 2011-13 season. While puerulus settlement continues to improve, it is very important to see if some of the patterns we have seen during low settlement seasons persist.

Last season we had data from almost 1500 pot lifts resulting in almost 14 000 lobsters being measured throughout the fishery (Figure 4). As you can see though there is a gap around the Zone B/C line and inshore Kalbarri, so if you or anyone you know may be interested in joining the program around these areas we would love to hear from them.

As an incentive to participate in the meshed pot program, and as a preliminary examination of pot designs, fishers have the opportunity to trial their own 'super' pot. The idea of these pots is to examine different designs that may increase the catch rate of lobsters, leading to a more efficient fishery. Before fishing one of these pots, we are asking fishers to send us photos and dimensions of the pot so we can make sure they aren't likely to increase the catch of fish. Other than needing the necessary escape gaps, the choice of pot design is yours. We have new data sheets to make recording the catch from your meshed, normal and 'super' pot easier, so if you are interested in fishing one of these pots please let us know.

Thank you once again for helping in this program and look forward to getting your data back over the season as we hopefully will continue to see an increase in smaller lobsters entering our fishery.

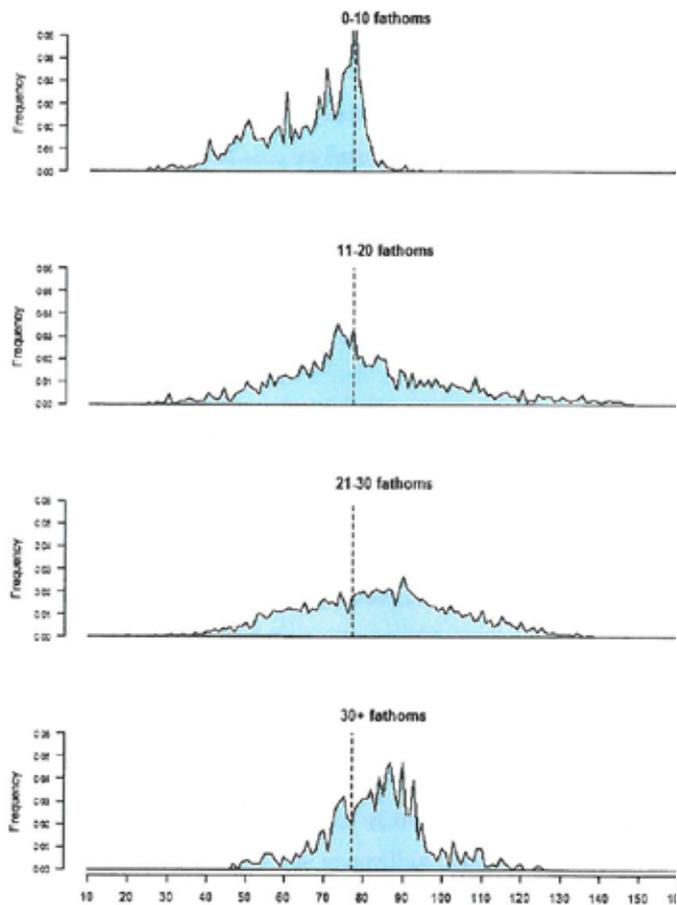


Figure 2. Frequency of lobsters of different carapace lengths for the different depth categories for the last five seasons (2008/09 – 2013/14).

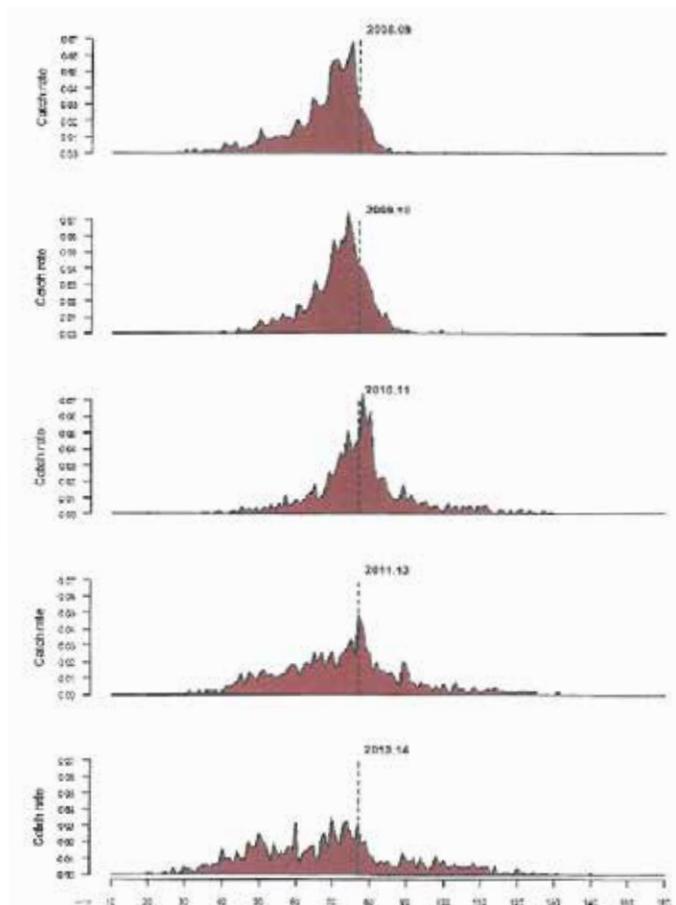


Figure 3. Catch rate of lobsters from closed pots in under 20 fathoms for each of the last five seasons.

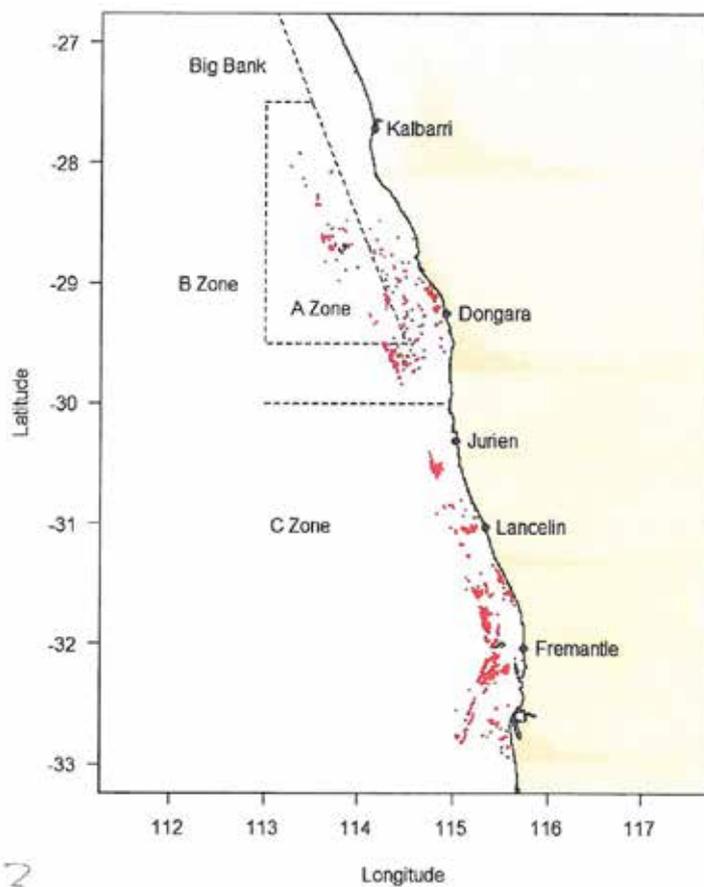


Figure 4. Location of where closed pots were pulled for the 2013 season.

EARLY 2014 SEASON REPORT*

After having completed most 2013 quota well before the season end, late December and early January landings were remarkably quiet.

The new season opened again on 15 January with exceptional pricing in live markets and followed with a burst in production across all zones. Market prices adjusted accordingly with the increased production but with strong live demand through to Chinese New Year (CNY) and onwards still absorbing most of the supply, there was only limited percentage directed to frozen production (to the surprise of most processors).

With improved stock abundance and greater size/price/live differentials opening up, the increased targeting of preferred sizes by fishers allowed live buyers to even further increase capacity for WA Lobster, even with massive new volumes appearing in the market from other origins.

Reported WA Lobster Commercial Production (Full Year) By INPUT LIVE WEIGHT (kg)					
	2009	2010	2011	2012	2013*
	Jan 1 – Dec 31	Jan 1 – Dec 31	Jan 1 – Dec 31	Jan 1 – Jan 14	Jan 15 – Jan 14
Whole Cooked	1,494,444	1,097,879	639,639	346,191	314,233
Whole Raw	336,050	371,690	93,700	100,330	49,860
Raw Tails	1,178,337	569,265	339,798	216,704	240,280
Live	3,677,482	3,145,103	3,335,930	4,338,198	4,566,519
Total	6,686,313	5,183,937	4,409,067	5,001,423	5,170,893

*NOTE : Where needed, season data has been combined to obtain Full Year production. These production figures are from major processors only.

Japan

Japanese interest for WA Lobster, live or frozen is now less than domestic Australian demand and must be seen as negligible in the overall market make up.

A noticeable development in October 2013 saw the Japanese domestic media focus on the common menu description of 'Ise-Ebi', which traditionally has been the term Japanese domestic lobster (*P. japonicus*) and 'Karuma-Ebi' for the Japanese domestic tiger prawn which for the past three decades has been largely substituted by the various imported species. The following media beat-up and scare resulted in wide spread menu deletions and cancellations, followed by some very publicized apologies and a circus of public dissent. Missing out on the volume sales over the major year-end festive period has resulted in a number of fire-sales for unsold inventory (mainly smaller sizes across a range of species and products). Forecasts for new season lobster purchases are pessimistic at best, even though sales are already near record lows.

WA Lobster heads remain limited and are still perhaps the main product item of interest for WA origin. Reported sales for raw heads in 2013 were as high as US\$6.50/kg cost and freight (CFR). Whole cooked red A @ US\$46-51/kg CFR, Whole cooked pink A @ US\$43-48/kg CFR

Taiwan

Whole frozen levels to Taiwan over the first half ranged from US\$41-48/kg CFR by air (A, B & C sizes), with only a handful of sea-container exports noted.

Very limited production simply meant very limited offerings to Taiwan, which followed by ever reducing interest.

Lack of production and offers from Cuba & Florida however did keep some interest in WA alive as buyers were searching for alternatives wherever they could.

Live demand from Taiwan for Australian Lobster was noted only over the lead up to CNY celebrations and of still negligible influence.

Hong Kong / China

Celebrations leading into CNY 2014 and year of the horse continued with higher and higher prices across all lobster origins as the Chinese market continues to expand.

With the decree of the Chinese government in 2013 to limit high valued seafood consumption through dining by officials, the expectations for a slowdown were vastly miscalculated.

Although major Beijing and Shanghai markets were severely impacted, the growth in middleclass consumption and the redirection to other cities and areas saw new markets appearing and confidence again surging.

Overall global live lobster exports to China continue to grow, none more-so than the live Homarus from Canada and USA. Live production out of Florida and now other parts of the Caribbean is continuing to increase into the China market with prices typically at 50-70% to that of the WA species, although overall the impact to WA Lobster appears more beneficial as market capacity grows and tanks need to be filled.

Reported WA LIVE LOBSTER Commercial Production (Full Year) By INPUT LIVE WEIGHT (kg)					
	2009	2010	2011	2012	2013*
LIVE EXPORTS	Jan 1 – Dec 31	Jan 1 – Dec 31	Jan 1 – Dec 31	Jan 1 – Jan 14	Jan 15 – Jan 14
% of catch	55.00%	60.67%	75.66%	86.74%	88.31%
Total (kg)	3,677,482	3,145,103	3,335,930	4,338,198	4,566,519

*NOTE : Where needed, season data has been combined to obtain Full Year production. These production figures are from major processors only.

USA

Inventory of WA tails for the US market has been limited and essentially matched to the current smaller demands and production which now stands at the average 4-5% of total catch.

Selling levels over 2013 remained steady between mid \$30's and low \$40's (per pound), which on some sizes (6-8oz and 12-16oz) represented a drop over 2012 levels of around 10-15%, as the gap between South African and West Australian levels begins to narrow.

Caribbean spiny lobster (*Panulirus argus*) seasons were on average down over 2012 by 10-25% depending on the origin and saw significant movements back towards the smaller sizes with major premiums being paid for 8oz and larger.

Reported WA Lobster Commercial Production of LOBSTER TAILS (Jan – April) By INPUT LIVE WEIGHT (kg)					
SIZE	2009	2010	2011	2012	2013*
	Jan 1 – Dec 31				
A	69,586	32,373	26,421	9,284	11,915
B	523,575	215,095	90,152	53,046	64,019
C	291,949	153,100	69,913	41,981	44,603
D	216,697	112,426	93,183	53,374	42,096
E	44,513	30,241	32,108	24,570	34,234
F	15,202	15,962	15,270	16,986	20,394
G	12,169	9,365	8,490	13,040	19,125
H	4,647	702	4,262	4,424	3,895
Total	1,178,337	569,265	339,919	216,704	240,280

*NOTE : Where needed, season data has been combined to obtain Full Year production. These production figures are from major processors only.

United States Import - Frozen Lobster (kg)

Calendar Year: 2011 - 2013

Country	Quantity		
	2011	2012	2013
Nicaragua	1,818,040	1,644,292	1,669,497
Brazil	2,216,248	1,449,995	1,659,393
Bahamas	1,387,517	1,782,408	1,473,864
Honduras	1,658,578	1,698,365	1,425,566
South Africa	282,372	199,284	362,588
Spain	219,735	193,092	341,437
Dominican Republic	332,276	328,871	260,814
Australia	333,501	186,860	205,741
Belize	235,763	195,822	182,904
St. Helena	121,281	117,945	142,039
Jamaica	63,314	96,485	108,200
United Arab Emirates	74,070	28,620	107,081
Panama	108,347	103,707	105,979
Colombia	128,665	112,267	96,292
Sri Lanka	0	68,236	72,029
New Zealand	23,285	17,953	58,287
Turks & Caicos Islands	46,719	30,378	25,474
Papua New Guinea	28,917	24,018	24,676
Ecuador	16,408	19,470	23,899
Total World Supply to USA	9,893,450	8,856,680	9,184,442

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

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

AUSTRALIA

The domestic market continues to be the largest consumer for frozen WA Lobsters (ABC sizes) and whilst prices are now largely too high for supermarket promotions, restaurants and specialist retailers continue to absorb the majority of supply.

In comparison to other Australian origins (SA/TAS/VIC), WA products are still more available and more competitively priced, and remain the best option for major users. Shortages over peak periods such as Easter and Christmas continue.

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Except where acknowledged, the information in this bulletin has been supplied by the FISHERIES RESEARCH DIVISION
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