Government of Western Australia
Department of Fisheries

Fish for the future

Bulletin No. 52 May 2017

COMMERCIAL FISHERIES PRODUCTION BULLETIN

WESTERN ROCK LOBSTER FISHERY – 2016 SEASON

Month	Zone A	Zone B	Zone C	TOTAL
15-31 Jan 2016	40,306	322,730	246,891	609,927
Feb-16	303,393	228,444	393,453	925,290
Mar-16	172,594	105,320	250,449	528,363
Apr-16	108,526	133,729	321,893	564,148
May-16	170,297	242,064	365,450	777,811
Jun-16	70,372	62,311	142,291	274,974
Jul-16	34,456	82,642	185,133	302,231
Aug-16	18,917	77,690	180,012	276,619
Sep-16	34,765	137,236	210,313	382,314
Oct-16	43,882	37,693	84,538	166,113
Nov-16	40,213	23,169	66,395	129,777
Dec-16	18,946	365,735	383,657	768,338
1-14 Jan 2017	38,838	129,069	213,213	381,120
TOTAL (kg)	**1,095,505**	**1,947,832**	**3,043,688**	**6,087,025**

Table 1. Catch by month and zone for the 2016 season (15 Jan 2016 to 14 Jan 2017).

Table 1 shows the approximate catch by month and zone for the 2016 rock lobster season. The total allowable catch (TACC) for the three zones were, Zone A 1,080 tonnes, Zone B 1,920 tonnes, and Zone C 3,000 tonnes with a total for the season of 6,000 tonnes, plus wet loss.

The TACC for the 2017 season is, Zone A 1,151 tonnes, Zone B 2,046 tonnes, and Zone C 3,197 tonnes, with a total catch of 6,394 tonnes. The 2016 season progressed in a similar manner to previous seasons managed under the TACC system. Fishers again fished certain periods when the beach price was high, targeting high priced grades, which again resulted in 'high grading' (15%) and subsequent return of lobsters to the water. As a result of the low TACC, the density of rock lobsters on the grounds remained very high. The increase in the 2017 TACC by approximately 300-plus tonnes is well within the limits of sustainability.

Approximately 97% of the product was exported to China, comprising 96.8% live, 1.6% whole cooked, 0.2% whole green, and 1.4% green tails. Approximately 226 boats fished during the 2016 season, only slightly lower (2%) than the 231 boats that fished in the 2015 season. This reduction in vessels fishing is probably the result of a change in economic rationalism and the high lease price of pots. Needless to say, with the high density of rock lobsters available, recreational fishers caught very well.

In the last two Commercial Fisheries Production Bulletins (CFPB) No's 50 and 51, mention was made of the 'marine heat wave' which occurred a number of years ago and resulted in the destruction in the shallows of the demersal vegetation adjacent to and north of Kalbarri. The occurrence also resulted in the elimination of the abalone stocks on the littoral reefs north of Kalbarri. Anecdotal evidence from Kalbarri fishers suggests the inshore marine vegetation is slowly returning and catches of lobsters in the area are improving.

However, industry members categorically state that the inshore fishery of Zone B from approximately Dongara south, also the top end of Zone C, has not produced the catches of rock lobsters experienced in the past for a number of years now. Numbers of undersized rock lobsters are also noticeably down.

Funds have been granted from the Fisheries Research and Development Corporation (FRDC) for researchers from the University of WA and the Department of

Fisheries to carry out investigations into why the above area no longer produces catches as in the past. There may be a number of causative reasons why this decline has happened. Perhaps the marine heat wave was one of them?

Further information on the 'marine heat wave' can be found in the following journals:

The 'marine heat wave' off Western Australia during the summer of 2010/11 by A. Pearce, R. Lenanton, G. Jackson, *et al.*, Fisheries Research Report No. 222 (2011); and *The "marine heat wave" off Western Australia during the summer of 2010/11 – 2 years on* by N. Caputi, G. Jackson, and A. Pearce, Fisheries Research Report No. 250 (2014).

BIG BANK/CLIFFS AREA (NORTH OF KALBARRI)

Several boats nominated and fished periodically in the Big Bank area (excluding the Department of Fisheries Research Area) from March until May. The primary reason for allowing fishing from a research perspective was to establish the density of rock lobsters in the area. As in the previous season, a number of fishers fished for rock lobsters during the winter months, well north of Kalbarri and west of Dirk Hartog Island. Fishers reported that the catches were good, although not as good as in the 2015 season. From the attached tagging map (Map 1) it appears that, as in the previous season, rock lobsters migrating through Big Bank were taken from the above areas.

AUGUSTA/WINDY HARBOUR

In comparison to the previous season, December 2016 and January 2017, catches offshore from Augusta were down. The decline in catches was possibly due to a combination of less rock lobsters on the grounds following excellent catches in the same area the previous season and lower sea temperatures which can have a negative effect on catchability. The lower sea temperatures were likely the result of persistent southerly winds and a very strong Capes Current transporting cold water from the south. Very little if any rock lobster fishing was carried out in the vicinity of the southern line (34°24') of Zone C. Catches of western rock lobster together with lesser numbers of southern rock lobsters have been taken close inshore and offshore in the vicinity of Windy Harbour.

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. Your comments based on your own personal observations in Part 1E (voluntary) would also be greatly 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.

FRDC TAGGING PROJECT UPDATE

We have now tagged more than **40,000** lobsters since August 2014 when the Fisheries Research and Development Corporation (FRDC) funded project commenced. Many thanks go to the commercial fishers who helped us get these tags out and to those that have been reporting their recapture. Almost **2000** tagged lobsters have already been recaptured and reported by **290** commercial and recreational fishers.

Reporting recaptures allows researchers to develop baseline information on lobster biomass and exploitation rates in a quota-based fishery, assess the impact of high-grading and determine many other important factors such as lobster growth, mortality and movement, which will all aid in the continued sustainability of lobster stocks.

REPORTING TAGGED LOBSTERS FOR CASH PRIZES

The **FishTagWA** tagging app (available from iTunes) is still the easiest way to make tag reports so 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.

In addition to a "Scratch-n-Win" ticket, all tags returned before 30 June 2017 will go in the running for the FRDC funded cash prize draw with the final **$5,000** up for grabs so please continue to keep the recaptures rolling in.

INTERESTING LOBSTER MOVEMENTS

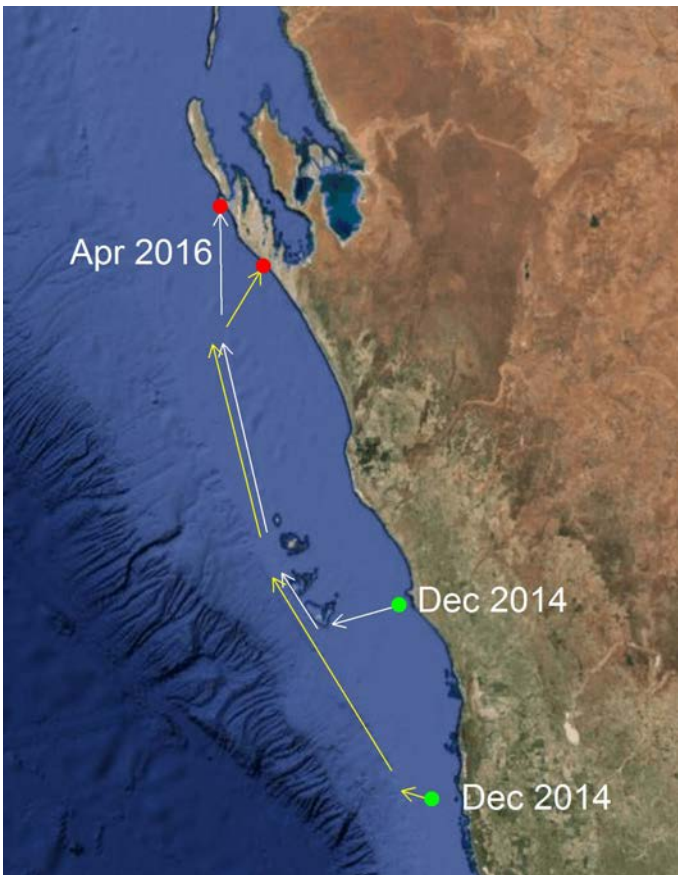
While the majority of lobsters are recaptured within 1 km of where they were released, many others travel hundreds of km during the whites migration. The tagging undertaken during the whites last summer demonstrated that these lobsters can typically migrate 5 km per day and may keep this up for months.

While most whites tagged in deep water (>100 m) off Rottnest last year showed a similar northern migration, the recapture of a few individuals suggested that some may migrate in a southerly direction (Map 2). Also consistent with a southern migration is the recent recapture of lobster number 185013 in shallow water near Hamelin Bay. This 2.5 kg jumbo had originally been tagged 235 km to the north near Rottnest four years earlier when it already measured 110.4 mm. Unfortunately this rock lobster was not measured upon its capture at Hamelin Bay.

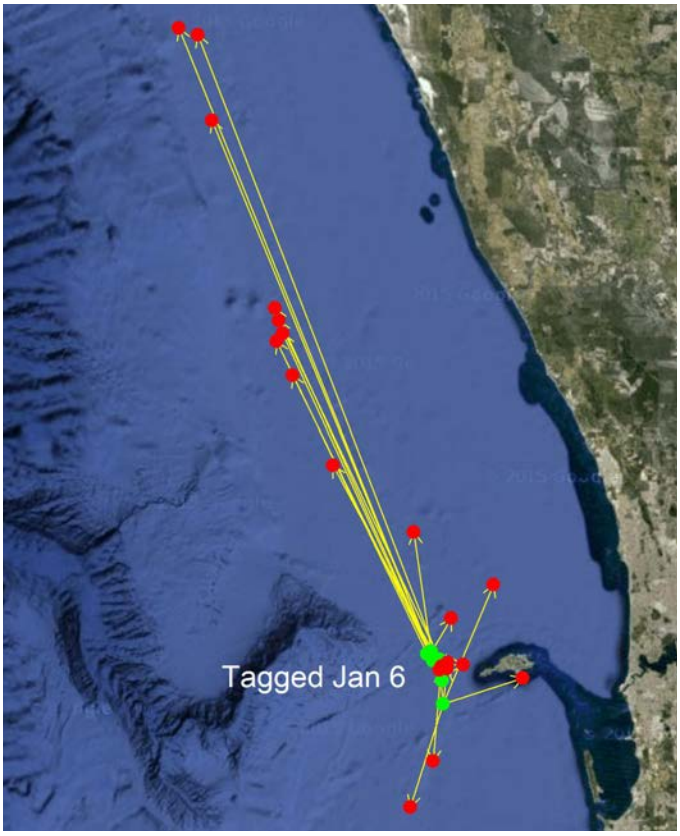
Last year also saw a strong migration with a number of tagged lobsters being recaptured in Big Bank and a few turning up near the cliffs around False Entrance. Preliminary information suggests that lobsters were not moving as quickly this year and were perhaps affected by the stronger water currents reported by some fishers.

During the 1979/80 and 1980/81 seasons very large catches of rock lobsters were taken in very deep water (up to 90 fathoms) west of Fremantle to south of Mandurah where the catches petered out. It has never been established whether the catches were from a general migration at the time from the coast or a large migration ('whites' type of run) from north to south. The perambulations (migration) of tagged rock lobster number 185013 from just south of Rottnest to the shallows near Hamelin Bay is the first demonstration of an animal moving a long distance in a southerly direction. Which leads to speculation that perhaps those lobsters in deep water in 1979/80 and 1980/81 were actually migrating south?

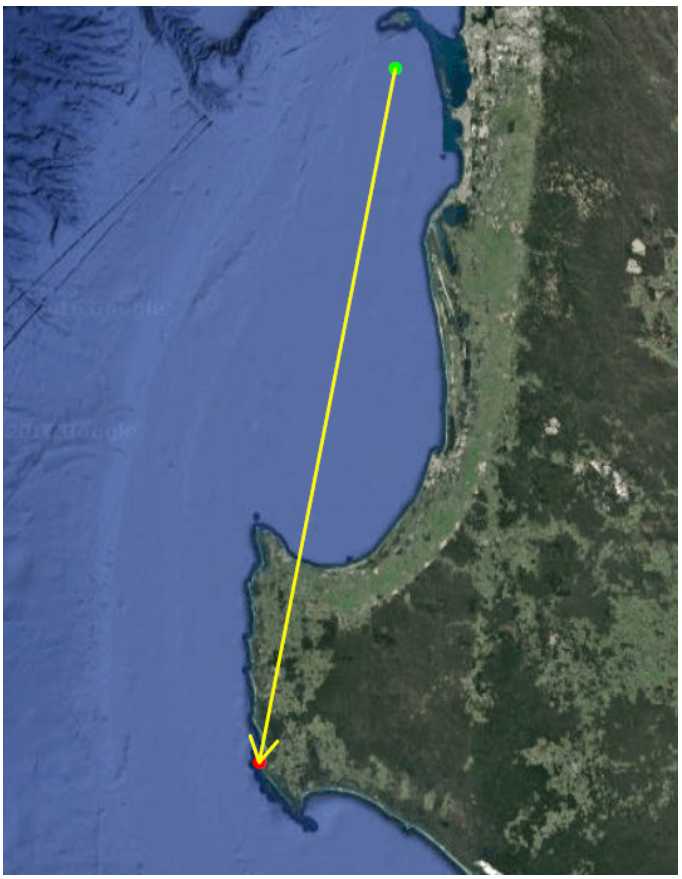
See tagging map of this remarkable migration (Map 3).



Map 1. The travels of two whites tagged in December 2014 who migrated through Big Bank and were recaptured on the cliffs. These lobsters were assumed to have followed the same migration path observed for other whites.



Map 2. The recapture locations of deep water whites tagged off Rottnest in January 2016.



Map 3. The 235km southern travels of tagged rock lobster number 185013, recaptured in shallow water off Hamelin Bay as a 2.5 kg jumbo.

PUERULUS SETTLEMENT

To date the puerulus settlement during the current 2016/17 collection season (May 2016 to April 2017) 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 well above their pre 2006 "historical" 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 2020 season.

The latest puerulus settlement information for 2016/17 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. The level of settlement is relatively low during the April – June period and not all sites will be monitored.

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

The research section is continuing 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. (See photo below).

A rock lobster fisher deployed the above collector in 2016/17 off Cervantes in deep water. After four months sampling only two puerulus in total were collected. The collector was removed in January 2017 and will be modified slightly. The Research section is considering when and where (depth and site) to redeploy this collector.

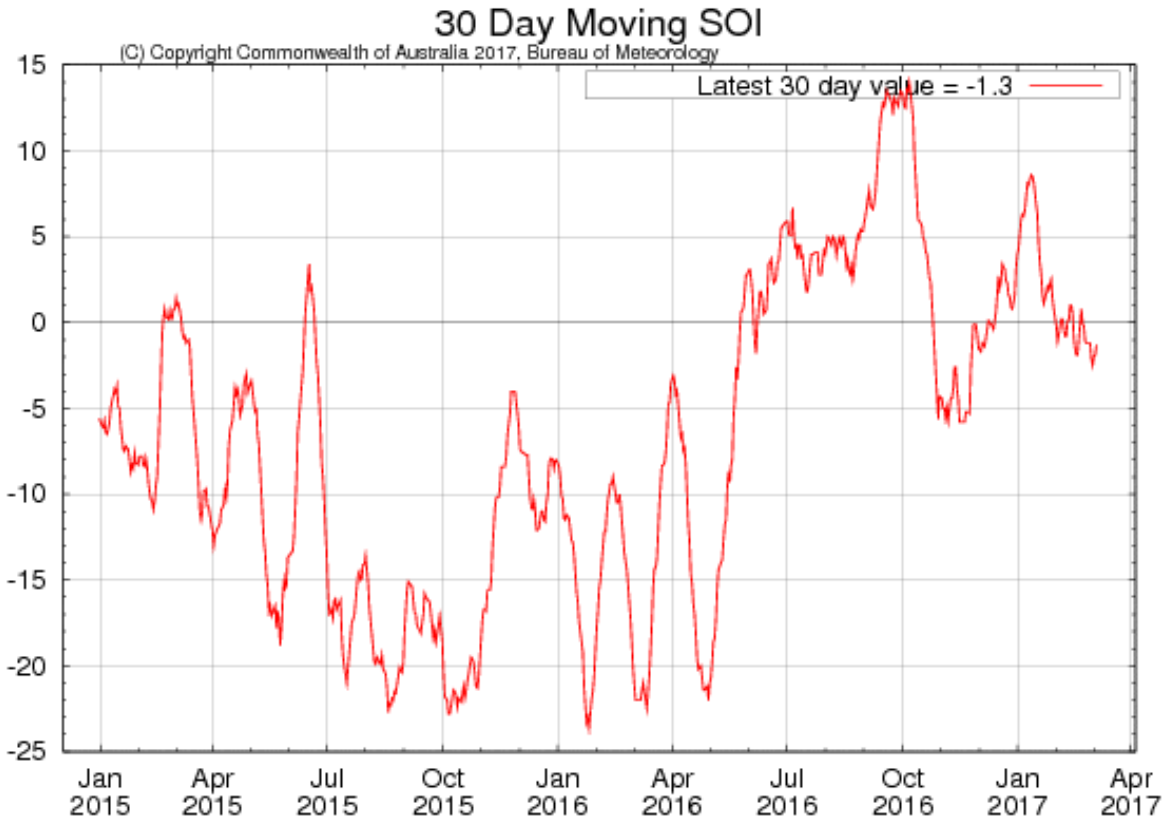


Figure 1. Southern Oscillation Index since Jan 2015 until April 2017 (data supplied by the Australian Government - Bureau of Meteorology).

LIKELIHOOD OF EL NIÑO IN 2017 INCREASES

The El Niño-Southern Oscillation (ENSO) remains neutral. However, recent changes in both the tropical Pacific Ocean and atmosphere, and climate model outlooks surveyed by the Bureau, suggest the likelihood of El Niño forming in 2017 has risen. As a result, the Bureau's ENSO Outlook status has been upgraded to El Niño WATCH, meaning the likelihood of El Niño forming in 2017 is approximately 50%.

All atmospheric and oceanic indicators of ENSO are currently within neutral thresholds. However, sea surface temperatures have been increasing in the eastern Pacific Ocean and are now warmer than average for the first time since June 2016, while the Southern Oscillation Index (SOI) has been trending downwards.

Seven of eight international models surveyed by the Bureau indicate steady warming in the central tropical Pacific Ocean over the next six months. Six models suggest El Niño thresholds may be reached by July 2017. However, some caution must be taken at this time of year, with lower model accuracy through the autumn months compared to other times of the year.

El Niño is often associated with below average winter–spring rainfall over eastern Australia and warmer than average winter–spring maximum temperatures over the southern half of Australia.

The Indian Ocean Dipole (IOD) has little influence on Australia from December to April. Current outlooks suggest a neutral IOD may persist until the end of autumn (issued 28 February 2017).

SMALL MESH POTTING PROGRAM

The Rock Lobster Team would like to thank all those fishers for their continuing support in the small meshed pot programme. The data you collect is providing a better understanding of the smaller size classes of rock lobsters throughout the fishery.

If you would like to participate in the program during the 2017 season please let us know by contacting either Jason How or Mark Rossbach on (08) 9203 0111.

As data becomes available we hope to send you information on what is being caught along the coast throughout the year.

INDEPENDENT BREEDING STOCK SURVEY

In 2016 the Independent Breeding Stock Surveys (IBSS) were conducted at 5 sites, Lancelin, Dongara, Jurien, Abrolhos & Big Bank, 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. The Fremantle and Kalbarri sites were not sampled this year.

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 as comparable as possible to that of the previous years. The one aspect we cannot keep constant however is the catchability of the lobsters which is affected by swell, water temperature, and moult stage. 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. 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. We would like to take this opportunity to thank all who showed a willingness to help. Hopefully this level of enthusiasm continues into future seasons.

In the 2016 surveys a small decline was seen at Lancelin and Dongara, whereas at all other sites the index remained constant or increased slightly. The slight declines / minimal increases were not totally unexpected since the adult lobsters from the very low 2008 and 2009 puerulus settlements are now eight and seven years old, the ages when lobsters start to mature, thus these poor settlement years are adding little to the current breeding stock.

Another compounding factor for the 2016 surveys was the catchability of lobsters due to the record cold water temperatures recorded during the survey. Satellite-derived sea surface temperature readings, which have been recorded since 1982, showed that during September and October 2016, water temperatures were more than 1°C colder than the long-term average and the lowest in this 35-year time series (Figure 2). This would have reduced catch rates.

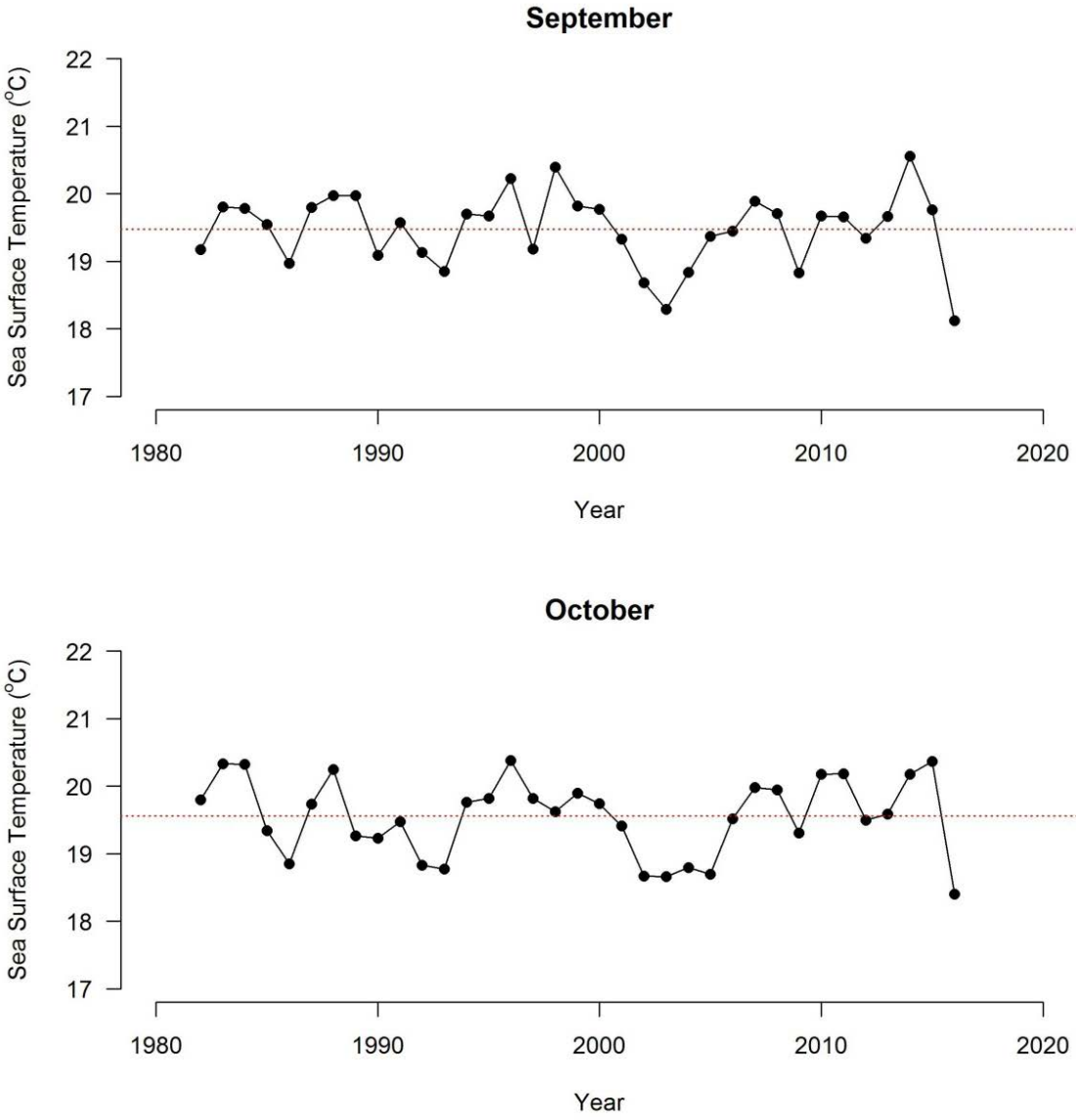


Figure 2. Mean Reynolds satellite sea surface temperatures recorded across the lobster fishery during the 2016 IBSS, with the respective long-term averages shown as dotted lines.

WHALE ENTANGLEMENTS

This season saw a slight increase in whale entanglements from the two recorded in 2015, with four entanglements of humpback whales in WRL gear during the 2016 whale migration. This is still well below recent peak levels, and is within the historic range. This indicates that the gear modifications introduced have been effective in reducing entanglement numbers. This was confirmed by a modelling analysis undertaken by Jason and Simon in the Science and Resource Assessment Division which, when accounting for increasing whale numbers, changes in fishing effort and the timing of the whale migration, saw that gear modifications reduced the entanglement rate by around two thirds. Without gear modifications this season we would have expected 13 entanglements rather than the four recorded. Work is continuing on examining the movement patterns of the over 60 humpback whales that were satellite tagged over the last few years. They have revealed some very interesting patterns which may account for the high number of entanglements we saw in 2013. This information is being compiled into a draft final FRDC report and will be available to fishers electronically and also will be presented at the Annual Management Meeting in June.

APRIL 2017 STATISTICS REPORT* WEST AUSTRALIAN LOBSTER INDUSTRY

Reported WA Lobster Commercial Production (Full Season)									
Product	**Unit**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Type		**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**	**Jan 15 – Jan 14**
Whole Cooked	KG	1,494,444	1,097,879	639,639	346,191	314,233	187,855	76,222	120,918
Whole Raw	KG	336,050	371,690	93,700	100,330	49,860	26,060	8,800	15,770
Raw Tails	KG	1,178,337	569,265	339,798	216,704	240,280	169,725	139,081	81,975
Live	KG	3,677,482	3,145,103	3,335,930	4,338,198	4,566,519	5,148,333	4,873,653	5,387,049
Total	**KG**	**6,686,313**	**5,183,937**	**4,409,067**	**5,001,423**	**5,170,893**	**5,531,973**	**5,097,756**	**5,605,712**

* As reported by Major Commercial Processors

Australia Export Statistics						
Frozen Spiny Lobster (all species)						
Calendar Year: 2012 – 2016						
Importing Country (top 10)	**Unit**	**Quantity**				
		2012	**2013**	**2014**	**2015**	**2016**
World	**KG**	**542,190**	**402,640**	**329,768**	**278,181**	**289,154**
United States	KG	208,137	182,337	136,216	134,693	160,921
Taiwan	KG	51,626	42,689	102,895	37,259	18,675
Japan	KG	202,991	148,463	65,199	72,894	53,672
NZ	KG	1,050	1,574	1,830	4,895	925
Singapore	KG	5,150	0	0	3,327	13,681
France	KG	5,833	0	0	3,100	0
Mauritius	KG	9,020	0	0	0	0
Belgium	KG	5,315	0	0	0	0
HK / China	KG	52,543	19,894	17,866	13,501	39,621
Malaysia	KG	0	3,380	0	0	0

Source of Data: Australian Bureau of Statistics

Japan

Japan Import Statistics – Frozen Spiny Lobster (By Arrival Year)									
Country of Origin (Top 12)	**Unit**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Philippines	KG	82,208	101,259	99,125	105,206	87,285	95,055	65,845	48,195
Indonesia	KG	54,154	79,236	39,560	134,380	145,691	20,524	45,388	57,844
India	KG	230,816	277,280	291,080	153,670	181,070	123,300	128,561	96,550
USA	KG	48,100	96,497	94,267	87,670	41,372	24,477	50,100	59,110
Cuba	KG	386,306	298,858	301,500	208,928	224,837	222,525	174,350	150,335
Brazil	KG	50,846	57,253	91,376	100,272	158,913	71,276	59,367	146,559
France (St Pauls)	KG	218,910	394,935	333,780	314,550	306,470	263,170	162,030	172,750
Tristan	KG	101,130	120,490	65,000	175,456	157,962	79,073	156,414	146,598
Madagascar	KG	77,200	128,700	141,810	104,546	135,545	116,417	153,762	143,188
Namibia	KG	158,950	54,480	180,190	124,380	167,420	152,140	188,310	142,490
South Africa	KG	272,020	265,438	303,708	253,675	189,859	210,802	108,052	122,970
Australia	KG	**450,108**	**271,888**	**256,573**	**159,839**	**122,318**	**56,006**	**34,953**	**40,608**
Total World	KG	**2,175,073**	**2,201,712**	**2,225,524**	**1,983,089**	**1,937,586**	**1,451,867**	**1,384,525**	**1,395,193**

Source of Data: Japan Ministry of Finance

Taiwan

Taiwan Import Statistics - Frozen Spiny Lobster (By Arrival Year)							
Country of Origin (Top 20)	**Unit**	**Quantity**					
		2011	**2012**	**2013**	**2014**	**2015**	**2016**
World	KG	1,056,628	604,860	780,987	1,241,958	1,248,081	1,369,706
Nicaragua	KG	22,493	15,339	7,620	42,324	202,170	338,338
Cuba	KG	203,840	311,289	327,794	419,880	274,473	300,087
United States	KG	392,058	71,500	112,012	217,463	268,464	143,241
Brazil	KG	44,021	36,913	48,460	86,925	39,841	141,730
India	KG	24,634	5,004	13,000	149,380	175,656	106,410
France	KG	63	30	72	20,949	33,563	64,825
Belize	KG	0	0	0	0	6,360	55,584
Honduras	KG	3,370	4,555	9,594	7,161	24,306	51,772
Australia	KG	246,399	69,805	36,970	117,213	29,509	19,695
South Africa	KG	14,110	970	5,884	95,235	36,224	19,150
Morocco	KG	0	2,920	23,949	47,493	25,686	13,806
Indonesia	KG	184	1,129	2,020	197	1,086	12,452
Namibia	KG	0	0	0	9,190	17,480	11,770
Mozambique	KG	0	0	0	0	60	10,008
Philippines	KG	2,940	3,873	2,444	8,790	10,051	8,642
Haiti	KG	0	0	0	0	0	8,565
Papua New Guinea	KG	0	0	0	0	25,434	7,330
Jamaica	KG	0	0	0	0	0	6,600
Madagascar	KG	0	0	4,070	6,000	9,249	5,162

Source of Data: Taiwan Directorate General of Customs

Hong Kong / China

These days when it comes to Lobster, it is often said that 'all roads lead to China'. When it comes to LIVE LOBSTER, China absolutely remains the biggest and most important player. With high prices and inconsistent daily supplies of premium species such as those from Australia & New Zealand, the capability rises for cheaper species and other seafood products to affect consumer buying decisions (even if just slightly). For Western Rock Lobster, it has been suggested that the changing fishing patterns and increased targeting of specific sizes may be contributing to a change in buyer confidence. As New Zealand has also recently seen up to a 20% average reduction in USD pricing, the market adjustment might however be more to do with a change in the overall confidence at the top end of town. Whether that could be more to do with the effective use of funds, nervousness over changing consumer decisions or even both, is certainly up for debate.

The continuing devaluation of the Chinese Currency against the US dollar of around 7% since Jan 1, 2016 and 13% since Jan 1, 2015 as well as a recent drop in China retail sales growth, hasn't seemed to have stopped some other seafoods from price rises or demand increases…. But many of those are targeted at the middle income areas of the market where confidence continues to hold relatively firm. Within this same frame however, distributor confidence for Frozen Spiny Lobster to China over 2016 from all origins was well down, likely due to production increases and new supply sources, putting pressure on importers to liquidate expensive on hand inventories and think twice about further purchases. At the time of writing this report and as frozen prices reach almost a 5 year low, confidence in frozen Spiny lobster appears to be returning, with most inventories reported to be exhausted and importers starting to look to return back to the table.

Reported WA Lobster Commercial Production of LIVE LOBSTER (Full Season)							
Lobster	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Season	**Jan 1 – Dec 31**	**Jan 1 – Dec 31**	**Jan 1 – Jan 14**	**Jan 15 – Jan 14**	**Jan 15 – Jan 14**	**Jan 15 – Jan 14**	**Jan 15 – Jan 14**
% of catch	**60.67%**	**75.66%**	**86.74%**	**88.31%**	**93.07%**	**95.60%**	**96.10%**
Total (kg)	**3,145,103**	**3,335,930**	**4,338,198**	**4,566,519**	**5,148,333**	**4,873,653**	**5,387,049**

As reported by Major Commercial Processors

USA

Reported WA Lobster Commercial Production of LOBSTER TAILS (Live Whole Weight)								
Lobster	**Unit**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Size		**Jan 1 – Dec 31**	**Jan 1 – Dec 31**	**Jan 1 – Jan 14**	**Jan 15 – Jan 14**	**Jan 15 – Jan 14**	**Jan 15 – Jan 14**	**Jan 15 – Jan 14**
A	KG	32,373	26,421	9,284	11,915	14,396	6,239	4,202
B	KG	215,095	90,152	53,046	64,019	65,663	54,382	28,245
C	KG	153,100	69,913	41,981	44,603	30,757	26,375	19,406
D	KG	112,426	93,183	53,374	42,096	29,233	26,981	18,282
E	KG	30,241	32,108	24,570	34,234	14,885	14,527	8,223
F	KG	15,962	15,270	16,986	20,394	7,409	5,987	2,435
G	KG	9,365	8,490	13,040	19,125	6,086	4,363	1,042
H	KG	702	4,262	4,424	3,895	1,297	227	140
Total Live	KG	**569,265**	**339,919**	**216,704**	**240,280**	**169,725**	**139,081**	**81,975**
Tail Weight	KG	**227,706**	**135,968**	**86,682**	**96,112**	**67,890**	**55,633**	**32,790**

As reported by Major Commercial Processors

United States Import - Frozen Spiny Lobster (By Arrival Year)							
Country of Origin (Top 21)	**Unit**	**Quantity**					
		2011	**2012**	**2013**	**2014**	**2015**	**2016**
World	**KG**	**9,893,450**	**8,856,680**	**9,192,180**	**8,220,614**	**8,714,455**	**8,214,116**
Nicaragua	KG	1,818,040	1,644,292	1,669,497	1,620,535	1,857,128	1,613,211
Brazil	KG	2,216,248	1,449,995	1,659,393	1,622,371	1,413,722	1,622,371
Bahamas	KG	1,387,517	1,782,408	1,473,864	1,228,083	1,457,576	1,228,083
Honduras	KG	1,658,578	1,698,365	1,425,566	1,285,636	1,646,668	1,285,636
South Africa	KG	282,372	199,284	362,588	362,742	286,171	362,742
Spain	KG	219,735	193,092	341,437	65,764	72,049	65,764
Dominican Republic	KG	332,276	328,871	260,814	181,653	228,094	181,653
Australia	KG	333,501	186,860	205,741	178,281	114,779	178,281
Belize	KG	235,763	195,822	182,904	200,286	192,170	200,286
St. Helena	KG	121,281	117,945	142,039	137,889	103,336	137,889
Jamaica	KG	63,314	96,485	108,200	101,381	113,250	101,381
United Arab Emirates	KG	74,070	28,620	107,081	46,621	46,905	46,621
Panama	KG	108,347	103,707	105,979	76,469	55,474	77,295
Colombia	KG	128,665	112,267	96,292	89,222	106,064	89,222
Sri Lanka	KG	0	68,236	72,029	10,198	0	0
New Zealand	KG	23,285	17,953	58,287	79,097	80,148	79,097
Turks & Caicos Islands	KG	46,719	30,378	25,474	32,848	36,289	32,848
Papua New Guinea	KG	28,917	24,018	24,676	14,322	0	14,322
Ecuador	KG	16,408	19,470	23,899	7,448	1,899	7,448
Chile	KG	0	0	0	0	0	5,110
Mozambique	KG	0	0	0	0	0	6,924

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

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

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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.

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