

Aquaculture Production Report 2016-2017



Acknowledgments

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Aquaculture Production Report 2016-2017

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Information presented in this publication is presented as a general representation of aquaculture production in NSW for the reporting period 1 July 2016 to 30 June 2017. All care has been taken to ensure the information is correct at the time of publication. NSW Department of Primary Industries does not guarantee the accuracy of the information provided by the permit holders.

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Table 1: Snapshot of Total Aquaculture Production for 2016/2017

Grouping	Common name	Scientific name	Production		Average Price per Production Unit	Value (\$)
			Kilograms	Dozens		
Crustaceans	Black Tiger Prawn	<i>Penaeus monodon</i>	360,386		\$21.83	\$7,868,532
	Yabby	<i>Cherax destructor</i>	4,019		\$33.03	\$132,766
	Yabby (bait)	<i>Cherax destructor</i>	2,330		\$106.32	\$247,731
Subtotal						\$8,249,029
Freshwater Fish	Barramundi	<i>Lates calcarifer</i>	43,683		\$14.96	\$653,595
	Golden Perch	<i>Macquaria ambigua</i>	1,218		\$12.69	\$15,461
	Murray Cod	<i>Maccullochella peelii</i>	264,750		\$16.57	\$4,386,824
	Rainbow Trout	<i>Oncorhynchus mykiss</i>	211,047		\$12.43	\$2,623,377
	Silver Perch	<i>Bidyanus bidyanus</i>	193,597		\$12.38	\$2,397,682
Subtotal						\$10,076,939
Hatchery	Hatchery Species**					\$3,826,235
Subtotal						\$3,826,235
Molluscs	Sydney Rock Oyster	<i>Saccostrea glomerata</i>		5,517,866		\$40,682,269
	Pacific Oyster	<i>Crassostrea gigas</i>		287,359		\$4,640,844
	Native Oyster	<i>Ostrea angasi</i>		7,546		\$89,961
	Oyster Spat***					\$1,840,849
Subtotal						\$47,253,923
Others*						\$608,336
Total Value (\$)						\$70,014,462

* Not available for confidentiality reasons (≤ 5 farms authorised to cultivate species). Species include: Akoya Pearl (*Pinctada imbricata*), Australian Paratya (*Paratya australiensis*), Bloodworm (*Marphysa sanguinea*), Blue Mussel (*Mytilus galloprovincialis*), Brook Trout (*Salvelinus fontinalis*), Floodplain Mussel (*Vesunio ambiguus*), Moreton Bay Bug (*Thenus australiensis*), Mulloway (*Argyrosomus japonicus*), Native Oyster (*Ostrea angasi*; nursery cultivated) & Sydney Rock Oyster (*Saccostrea glomerata*; nursery cultivated).

** Refer to Table 3 of the Report.

*** Refer to Table 7 of the Report.

Table 2: Fish, Crustacean and Mollusc Production 2016/2017

Grouping	Common Name	Scientific Name	Production (kg)	Average Price per Production Unit	Value (\$)
Crustaceans	Black Tiger Prawn	<i>Penaeus monodon</i>	360,386	\$21.83	\$7,868,532
	Yabby	<i>Cherax destructor</i>	4,019	\$33.03	\$132,766
	Yabby (bait)	<i>Cherax destructor</i>	2,330	\$106.32	\$247,731
Subtotal					\$8,249,029
Freshwater Fish	Barramundi	<i>Lates calcarifer</i>	43,683	\$14.96	\$653,595
	Golden Perch	<i>Macquaria ambigua</i>	1,218	\$12.69	\$15,461
	Murray Cod	<i>Maccullochella peelii</i>	264,750	\$16.57	\$4,386,824
	Rainbow Trout	<i>Oncorhynchus mykiss</i>	211,047	\$12.43	\$2,623,377
	Silver Perch	<i>Bidyanus bidyanus</i>	193,597	\$12.38	\$2,397,682
Subtotal					\$10,076,939
Others*					\$322,562
Total Value (\$)					\$18,648,530

* Not available for confidentiality reasons (≤ 5 farms authorised to cultivate species). Species include: Australian Paratya (*Paratya australiensis*), Bloodworm (*Marphysa sanguinea*), Brook Trout (*Salvelinus fontinalis*), Floodplain Mussel (*Velesunio ambiguus*), Moreton Bay Bug (*Thenus australiensis*), Mulloway (*Argyrosomus japonicus*), Native Oyster (*Ostrea angasi*; nursery cultivated) & Sydney Rock Oyster (*Saccostrea glomerata*; nursery cultivated).

Figure A: Comparison of Land Based Aquaculture Production by Species and Year

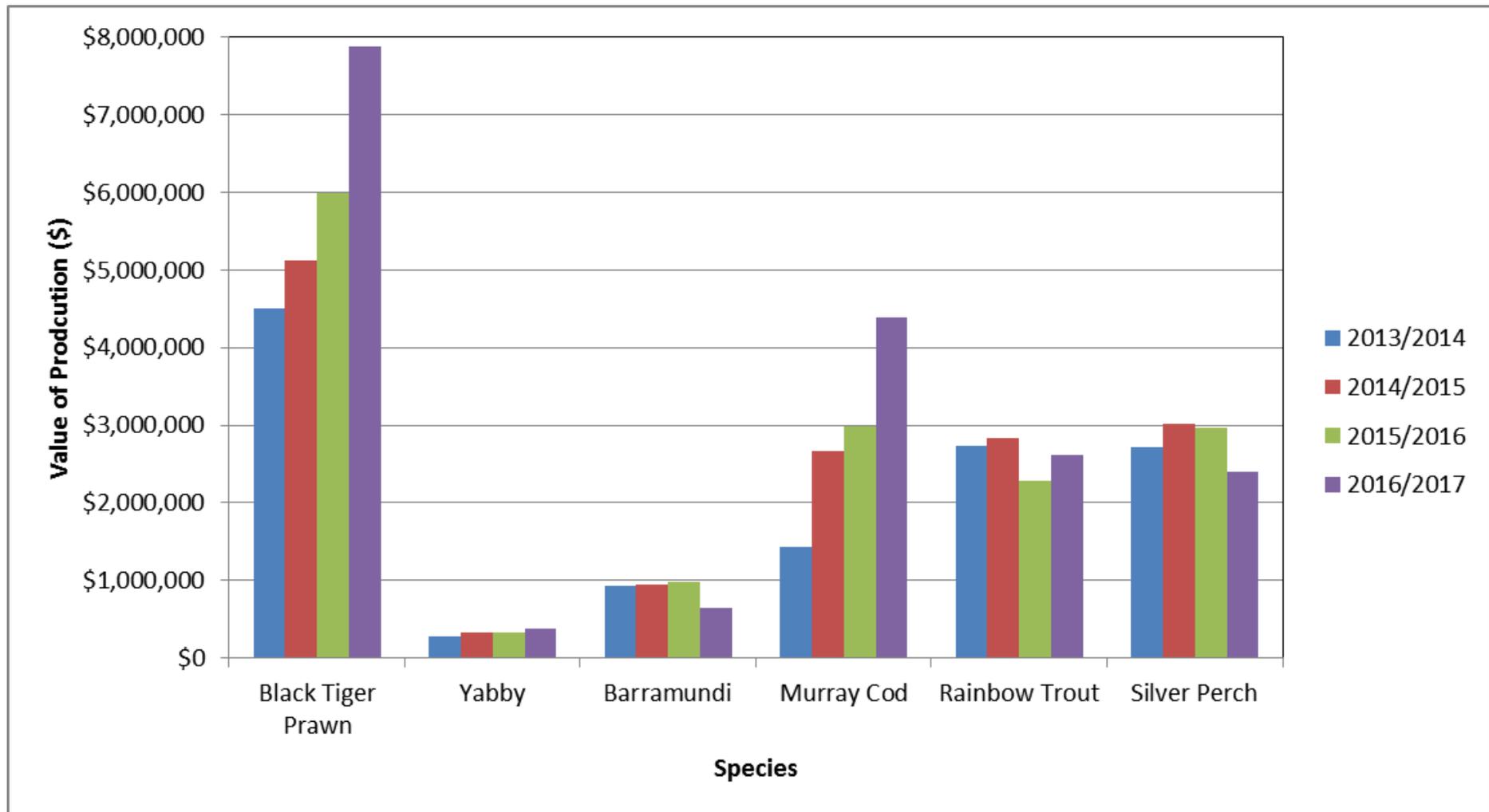


Table 3: Commercial Hatchery Production 2016/2017

Grouping	Common Name	Scientific Name	Production (individuals)	Average Price per Production Unit	Value (\$)
Aquarium Species	Aquarium Species		**	**	\$110,378
	Koi Carp	<i>Cyprinus carpio</i>	183,100	\$0.83	\$152,200
Subtotal			183,100		\$262,578
Freshwater Fish	Australian Bass	<i>Macquaria novemaculeata</i>	250,534	\$0.92	\$229,840
	Eel Tailed Catfish	<i>Tandanus tandanus</i>	1,464	\$2.50	\$3,660
	Golden Perch	<i>Macquaria ambigua</i>	2,122,980	\$0.35	\$745,847
	Murray Cod	<i>Maccullochella peelii</i>	2,075,617	\$0.64	\$1,335,422
	Rainbow Trout	<i>Oncorhynchus mykiss</i>	49,100	\$0.93	\$45,891
	Silver Perch	<i>Bidyanus bidyanus</i>	518,400	\$0.41	\$213,569
Subtotal			5,018,095		\$2,574,229
Others*					\$989,428
Total Value (\$)					\$3,826,235

* Not available for confidentiality reasons (≤ 5 hatcheries authorised to cultivate species). Species include: Black Tiger Prawn (*Penaeus monodon*), Brown Trout (*Salmo trutta*), Estuary Perch (*Macquaria colonorum*), Pacific Oyster (*Crassostrea gigas*) & Sydney Rock Oyster (*Saccostrea glomerata*).

** Quantity and average price not recorded due to range of species.

Table 4: Sydney Rock Oyster & Pacific Oyster Production by Estuary and Grade 2016/2017

Estuary	Species	Large Grade		Medium Grade		Small Grade		Total	
		Dozens	Value (\$)	Dozens	Value (\$)	Dozens	Value (\$)	Dozens	Value (\$)
Nambucca River	Sydney Rock Oyster	14,982	\$145,925	26,658	\$206,066	35,160	\$196,544	76,800	\$548,535
Macleay River	Sydney Rock Oyster	3,142	\$30,603	14,794	\$114,358	21,740	\$121,527	39,676	\$266,487
Hastings River	Sydney Rock Oyster	98,684	\$961,182	128,374	\$992,331	51,388	\$287,259	278,446	\$2,240,772
Camden Haven	Sydney Rock Oyster	50,381	\$490,711	67,970	\$525,408	207,015	\$1,157,214	325,366	\$2,173,333
Manning River	Sydney Rock Oyster	17,276	\$168,268	35,061	\$271,022	37,281	\$208,401	89,618	\$647,691
Wallis Lake	Sydney Rock Oyster	236,609	\$2,304,572	481,692	\$3,723,479	748,424	\$4,183,690	1,466,725	\$10,211,741
Port Stephens	Sydney Rock Oyster	376,721	\$3,669,263	236,863	\$1,830,951	201,762	\$1,127,850	815,346	\$6,628,063
	Pacific Oyster	8,853	\$105,351	8,008	\$70,310	12,238	\$61,190	29,099	\$236,851
Brisbane Water	Sydney Rock Oyster	20,111	\$195,881	47,845	\$369,842	87,770	\$490,634	155,726	\$1,056,357
Hawkesbury River	Sydney Rock Oyster	10,787	\$105,065	24,713	\$191,031	14,126	\$78,964	49,626	\$375,061
	Pacific Oyster (Triplod)	3,373	\$62,603	0	\$0	0	\$0	3,373	\$62,603
Crookhaven River	Sydney Rock Oyster	47,797	\$465,543	157,525	\$1,217,668	57,723	\$322,672	263,045	\$2,005,883
	Pacific Oyster (Triplod)	11,924	\$221,309	20,776	\$260,947	3,258	\$29,974	35,958	\$512,230
Clyde River	Sydney Rock Oyster	66,939	\$651,986	142,506	\$1,101,571	132,482	\$740,574	341,927	\$2,494,132
	Pacific Oyster (Triplod)	164,649	\$3,055,885	18,064	\$226,884	7,377	\$67,868	190,090	\$3,350,637
Tuross Lake	Sydney Rock Oyster	37,117	\$361,520	33,537	\$259,241	24,322	\$135,960	94,976	\$756,721
Wagonga Inlet	Sydney Rock Oyster	52,937	\$515,606	75,219	\$581,443	139,450	\$779,526	267,606	\$1,876,575
Wapengo Lake	Sydney Rock Oyster	31,615	\$307,930	76,639	\$592,419	33,966	\$189,870	142,220	\$1,090,220
Merimbula Lake	Sydney Rock Oyster	94,347	\$918,940	238,348	\$1,842,430	203,400	\$1,137,006	536,095	\$3,898,376
Pambula River	Sydney Rock Oyster	60,136	\$585,725	111,201	\$859,584	75,174	\$420,223	246,511	\$1,865,531
Wonboyn River	Sydney Rock Oyster	42,712	\$416,015	44,772	\$346,088	39,863	\$222,834	127,347	\$984,937

Estuary	Species	Large Grade		Medium Grade		Small Grade		Total	
		Dozens	Value (\$)						
Others	Sydney Rock Oyster*	75,391	\$734,308	59,091	\$456,773	66,328	\$370,774	200,810	\$1,561,855
	Pacific Oyster (Triploid)**	20,633	\$382,948	5,976	\$75,059	2,230	\$20,516	28,839	\$478,523
Total		1,547,116	\$16,857,138	2,055,632	\$16,114,905	2,202,477	\$12,351,069	5,805,225	\$45,323,112

* Not available for confidentiality reasons (≤ 5 current permit holders in the estuary). Others include: Bellinger River, Bermagui River, Botany Bay, Clarence River, Nelson Lagoon, Richmond River, Shoalhaven River, Tweed River & Woolli Woolli River.

** Not available for confidentiality reasons (≤ 5 current permit holders in the estuary). Others include: Patonga Creek, Shoalhaven River & Wapengo Lake.

Size grade

Sydney Rock Oyster

Large Grade (> 70mm total length or > 50g whole weight)
 Medium Grade (55 - 70mm total length or 30 - 50g whole weight)
 Small Grade (< 55mm total length or < 30g whole weight)

Pacific Oyster

Large Grade (> 85mm total length or > 70g whole weight)
 Medium Grade (70 - 85mm total length or 35 - 70g whole weight)
 Small Grade (< 70mm total length or < 35g whole weight)

Table 5: Sydney Rock Oyster Production – 2013/14, 2014/15, 2015/16 & 2016/17 by Estuary and Grade

Estuary	Large Grade (> 70mm total length or > 50g whole weight)				Medium Grade (55 - 70mm total length or 30 - 50g whole weight)				Small Grade (< 55mm total length or < 30g whole weight)				Total Dozens			
	2013/14	2014/15	2015/16	2016/17	2013/14	2014/15	2015/16	2016/17	2013/14	2014/15	2015/16	2016/17	2013/14	2014/15	2015/16	2016/17
Nambucca River	18,415	9,162	16,112	14,982	42,916	17,284	33,093	26,658	87,635	10,405	54,047	35,160	148,966	36,851	103,252	76,800
Macleay River	4,238	6,611	7,628	3,142	6,711	11,161	14,332	14,794	21,845	12,534	14,345	21,740	32,794	30,306	36,305	39,676
Hastings River	29,038	34,331	58,414	98,684	160,479	114,150	122,156	128,374	42,834	121,605	118,929	51,388	232,351	270,086	299,499	278,446
Camden Haven	76,133	67,160	47,941	50,381	61,684	66,874	51,417	67,970	64,783	303,028	170,118	207,015	202,600	437,062	269,476	325,366
Manning River	25,006	27,381	23,669	17,276	24,333	26,125	65,154	35,061	25,248	54,402	51,609	37,281	74,587	107,908	140,432	89,618
Wallis Lake	161,918	192,157	218,715	236,609	456,442	375,189	490,031	481,692	608,168	710,806	842,330	748,424	1,226,528	1,278,152	1,551,076	1,466,725
Port Stephens	227,190	343,074	317,894	376,721	201,335	203,158	215,739	236,863	189,441	207,489	236,110	201,762	617,966	753,721	769,743	815,346
Brisbane Water	6,800	10,768	700	20,111	23,636	30,053	14,170	47,845	58,999	17,181	51,789	87,770	89,435	58,002	66,659	155,726
Hawkesbury River	7,087	9,755	27,736	10,787	10,064	8,340	11,112	24,713	9,390	15,808	16,258	14,126	26,541	33,903	55,106	49,626
Crookhaven River	36,288	42,091	37,695	47,797	105,266	97,842	96,624	157,525	75,865	86,668	58,752	57,723	217,419	226,601	193,071	263,045
Clyde River	92,166	79,726	80,416	66,939	243,925	213,172	186,784	142,506	290,950	178,690	161,210	132,482	627,041	471,588	428,410	341,927
Tuross Lake	25,897	19,453	18,377	37,117	36,727	33,319	23,445	33,537	6,025	5,935	5,678	24,322	68,649	58,707	47,500	94,976
Wagonga Inlet	51,730	52,379	37,872	52,937	82,457	113,217	73,577	75,219	119,544	171,955	120,084	139,450	253,731	337,551	231,533	267,606
Wapengo Lake	11,933	22,916	23,714	31,615	44,050	66,614	44,415	76,639	20,945	20,075	41,234	33,966	76,928	109,605	109,363	142,220
Merimbula Lake	61,117	55,643	113,202	94,347	172,214	202,356	191,865	238,348	132,464	156,970	123,983	203,400	365,795	414,969	429,050	536,095
Pambula River	63,835	76,132	54,866	60,136	116,085	136,549	131,045	111,201	36,605	56,096	50,261	75,174	216,525	268,777	236,172	246,511
Wonboyn River	20,888	23,844	31,470	42,712	26,955	29,793	53,129	44,772	31,176	35,629	34,616	39,863	79,019	89,266	119,215	127,347
Others*	99,204	63,020	78,777	75,391	70,172	39,972	59,222	59,091	60,551	66,917	50,058	66,328	229,927	169,909	188,057	200,810
Total	1,018,883	1,135,603	1,195,198	1,337,684	1,885,451	1,785,168	1,877,310	2,002,808	1,882,468	2,232,193	2,201,411	2,177,374	4,786,802	5,152,964	5,273,919	5,517,866

* Not available for confidentiality reasons (≤ 5 current permit holders in the estuary). Others include: Bellinger River, Bermagui River, Botany Bay, Clarence River, Nelson Lagoon, Richmond River, Shoalhaven River, Tweed River & Woolli Woolli River.

Table 6: Pacific Oyster Production - 2013/2014, 2014/2015, 2015/2016 & 2016/2017 by Estuary and Grade**

Estuary	Large Grade (> 85mm total length or > 70g whole weight)				Medium Grade (70 - 85mm total length or 35 - 70g whole weight)				Small Grade (< 70mm total length or < 35g whole weight)				Total Dozens			
	2013/14	2014/15	2015/16	2016/17	2013/14	2014/15	2015/16	2016/17	2013/14	2014/15	2015/16	2016/17	2013/14	2014/15	2015/16	2016/17
Wallis Lake	9,830	1,050	0	0	11,262	1,910	0	0	4,757	840	0	0	25,849	3,800	0	0
Port Stephens	43,915	11,147	32,100	8,853	34,695	17,371	44,875	8,008	22,904	15,326	21,279	12,238	101,514	43,844	98,254	29,099
Hawkesbury River	6,851	2,697	1,000	3,373	9,789	158	3,675	0	4,581	0	70	0	21,221	2,855	4,745	3,373
Crookhaven River	20,436	83,597	53,617	11,924	23,736	36,369	56,611	20,776	24,104	21,612	24,946	3,258	68,276	141,578	135,174	35,958
Clyde River	4,746	81,887	140,388	164,649	10,675	49,781	49,051	18,064	5,300	24,600	8,896	7,377	20,721	156,268	198,335	190,090
Others*	7,935	9,134	14,470	20,633	7,787	11,492	11,683	5,976	1,910	3,964	5,633	2,230	17,632	24,590	31,786	28,839
Total	93,713	189,512	241,575	209,432	97,944	117,081	165,895	52,824	63,556	66,342	60,824	25,103	255,213	372,935	468,294	287,359

* Not available for confidentiality reasons (≤ 5 current permit holders in the estuary). Others include: Patonga Creek, Shoalhaven River & Wapengo Lake.

** Includes Diploid & Triploid Pacific Oyster production.

Table 7: Oyster Spat Production* by Spat Source for 2016/2017

Type of Cultivation	Large Spat (\$)	Medium Spat (\$)	Small Spat (\$)	Total Value (\$)
Hatchery Nursery Stock	\$43,000	\$156,206	\$84,528	\$283,734
Wild Caught Stock	\$1,276,371	\$177,324	\$103,420	\$1,557,115
Total	\$1,319,371	\$333,530	\$187,948	\$1,840,849

* Includes figures for Sydney Rock Oyster, Pacific Oyster & Native Oyster.

Figure B: Comparison of Oyster Aquaculture Production by Species and Year

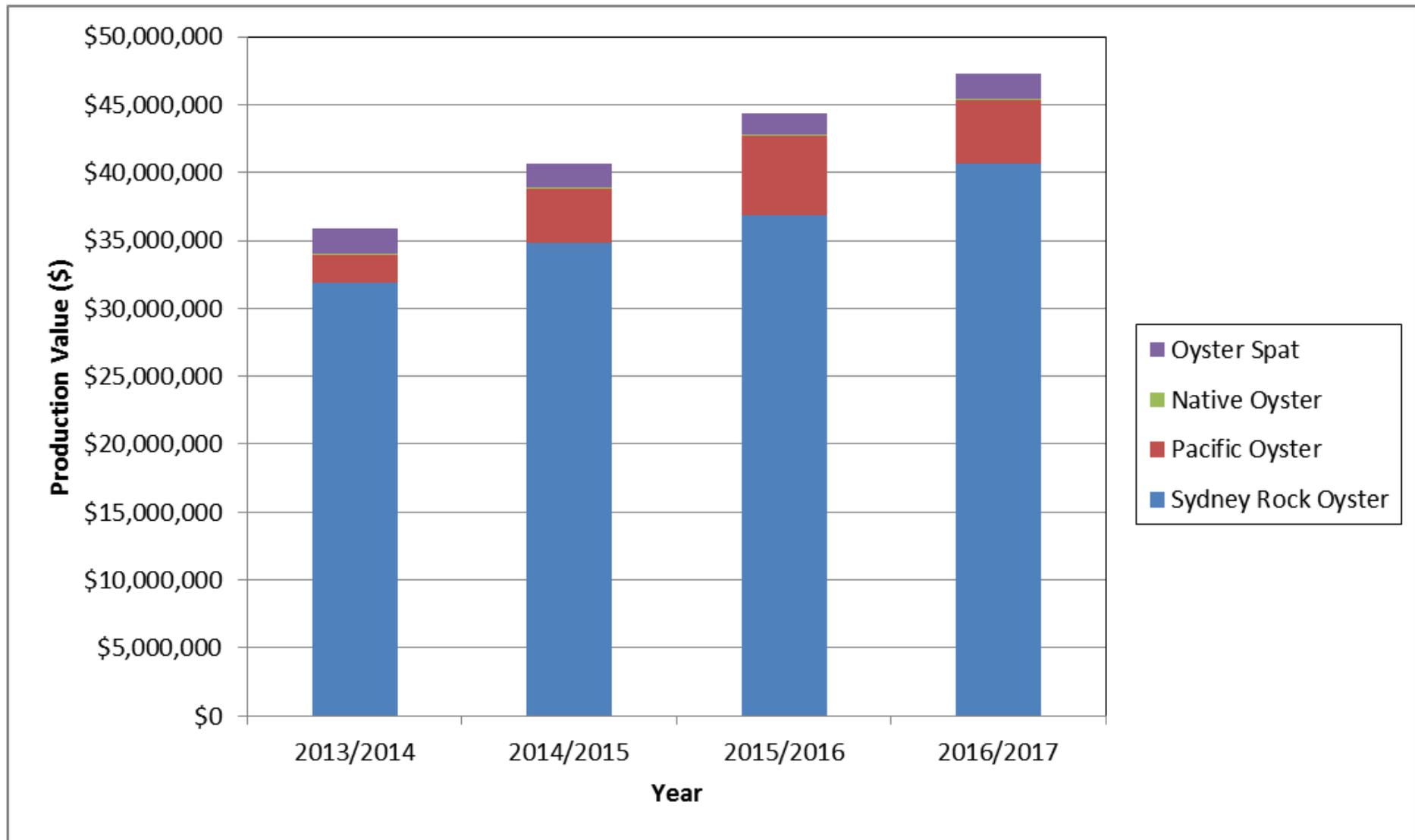


Table 8: Total Oyster Production by Permit Holder for 2016/2017**

Production Range	Nil Production	1 - 5,000 Dozen	5,001 - 20,000 Dozen	20,001 - 35,000 Dozen	35,001 - 50,000 Dozen	> 50,000 Dozen	Total
Number of Permit Holders*	40	59	100	34	9	26	268
Percentage of Permit Holders	15%	22%	37%	13%	3%	10%	100%
Quantity Produced (dozens)		144,006	1,231,967	891,051	359,196	3,186,551	5,812,771
Percentage of Production (dozens)		2%	21%	15%	6%	55%	100%
Total Value (\$)		\$1,142,931	\$10,165,380	\$6,989,985	\$2,884,212	\$24,230,567	\$45,413,075

* Does not include the Class A permit holders who did not submit a production return for 2016/2017.

** Does not include oyster spat production.

Table 9: Average Reported Farm Gate Price for 2016/2017 by Species and Grade

Grade	Sydney Rock Oyster <i>average price per dozen</i>	Pacific Oyster <i>average price per dozen</i>	Triploid Pacific Oyster <i>average price per dozen</i>	Native Oyster <i>average price per dozen</i>
Large	\$9.74	\$11.90	\$18.56	\$9.75
Medium	\$7.73	\$8.78	\$12.56	\$14.75
Small	\$5.59	\$5.00	\$9.20	\$8.00

Figure C: Percentage of Class A Permit Holders by Production Group

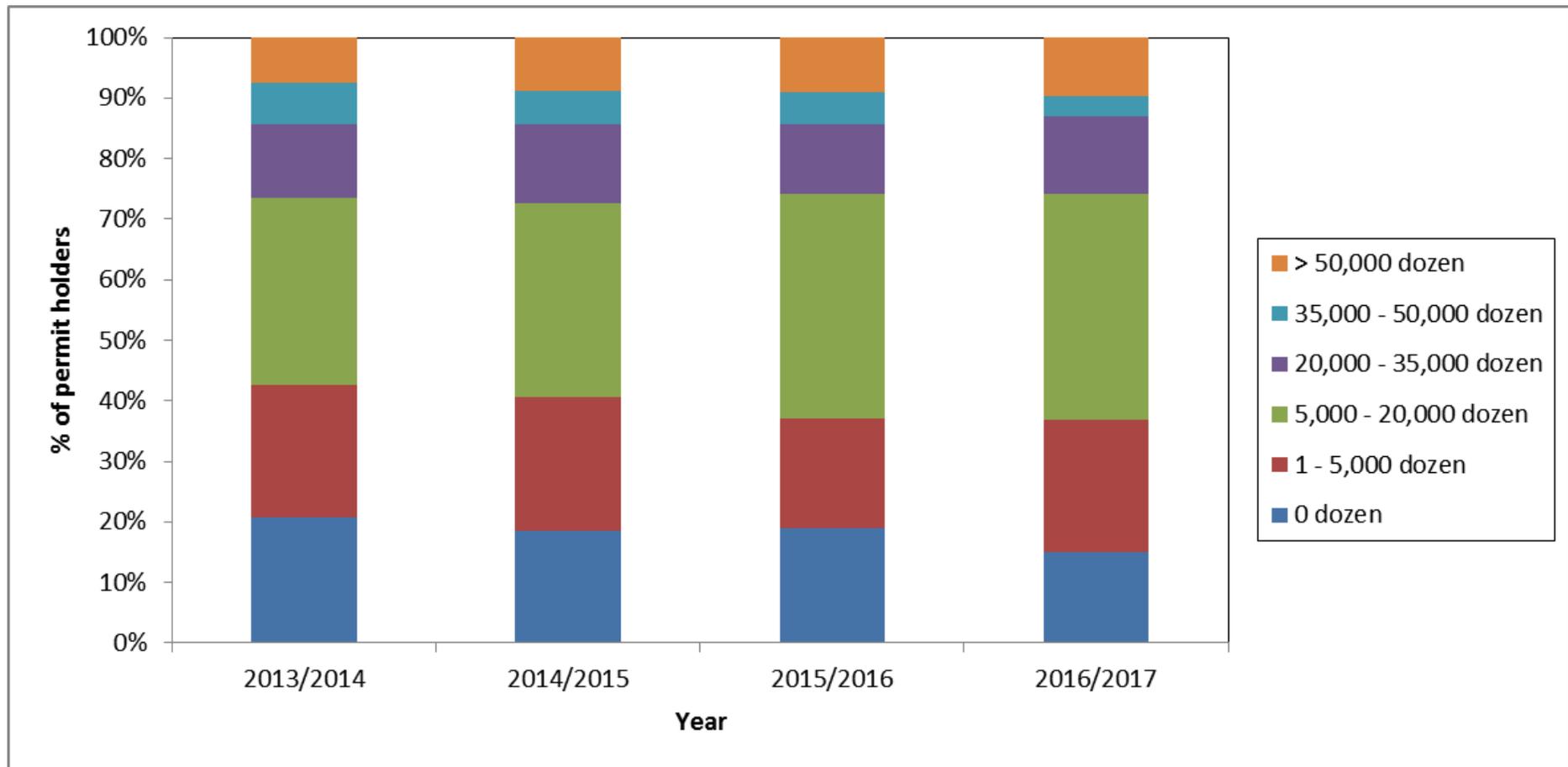


Table 10: Average Farm Gate Price by Estuary* & Species

Estuary	Species	Large Grade	Medium Grade	Small Grade
Nambucca River	Sydney Rock Oyster	\$10.83	\$8.55	\$6.72
Macleay River	Sydney Rock Oyster	\$10.70	\$7.44	\$5.81
Hastings River	Sydney Rock Oyster	\$9.10	\$7.67	\$5.68
Camden Haven	Sydney Rock Oyster	\$9.45	\$7.60	\$5.52
Manning River	Sydney Rock Oyster	\$9.22	\$6.73	\$5.12
Wallis Lake	Sydney Rock Oyster	\$8.91	\$6.83	\$4.42
Port Stephens	Sydney Rock Oyster	\$9.70	\$7.75	\$5.45
	Pacific Oyster (Diploid)	\$11.90	\$8.39	\$5.00
Brisbane Water	Sydney Rock Oyster	\$12.50	\$10.44	\$7.31
Hawkesbury River	Sydney Rock Oyster	\$9.50	\$7.66	\$5.94
Crookhaven River	Sydney Rock Oyster	\$10.15	\$7.80	\$5.91
	Pacific Oyster (Triploid)	\$18.19	\$10.82	\$11.52
Clyde River	Sydney Rock Oyster	\$11.58	\$8.87	\$6.33
	Pacific Oyster (Triploid)	\$20.31	\$13.92	\$9.06
Tuross Lake	Sydney Rock Oyster	\$9.63	\$7.38	\$4.75
Wagonga Inlet	Sydney Rock Oyster	\$10.05	\$7.92	\$5.62
Wapengo Lake	Sydney Rock Oyster	\$10.64	\$8.62	\$6.78
Merimbula Lake	Sydney Rock Oyster	\$10.00	\$7.93	\$5.88
Pambula River	Sydney Rock Oyster	\$9.63	\$7.55	\$5.96
Wonboyn River	Sydney Rock Oyster	\$9.50	\$7.57	\$5.50

* Average farm gate price not recorded for estuaries with ≤ 5 permit holders.

Size grade

Sydney Rock Oyster

Large Grade (> 70mm total length or > 50g whole weight)
 Medium Grade (55 - 70mm total length or 30 - 50g whole weight)
 Small Grade (< 55mm total length or < 30g whole weight)

Pacific Oyster

Large Grade (> 85mm total length or > 70g whole weight)
 Medium Grade (70 - 85mm total length or 35 - 70g whole weight)
 Small Grade (< 70mm total length or < 35g whole weight)