

Department of Primary Industries  
Department of Regional NSW

# Aquaculture production report

2022-2023



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Photo: Brandon Armstrong – Oyster raft

Sam Davis – Female Blue Mussel

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Table 1 - Snapshot of total aquaculture production for 2022-23

Grouping	Common name	Scientific name	Production kilograms	Production dozens	Average price per kilogram	Value (\$)
Crustaceans	Black Tiger Prawn	<i>Penaeus monodon</i>	212,160		\$21.79	\$4,622,213
	Yabby	<i>Cherax destructor</i>	2,076		\$40.06	\$83,160
	Yabby (bait)	<i>Cherax destructor</i>	2,733		\$79.22	\$216,498
<b>Subtotal</b>						<b>\$4,921,871</b>
Freshwater fish	Barramundi	<i>Lates calcarifer</i>	64,142		\$15.47	\$992,492
	Murray Cod	<i>Maccullochella peelii</i>	602,250		\$23.50	\$14,151,647
	Rainbow Trout	<i>Oncorhynchus mykiss</i>	163,460		\$14.46	\$2,364,255
	Silver Perch	<i>Bidyanus bidyanus</i>	77,762		\$20.14	\$1,566,352
<b>Subtotal</b>						<b>\$19,074,746</b>
Hatchery	Hatchery species**					\$10,072,860
<b>Subtotal</b>						<b>\$10,072,860</b>
Molluscs	Sydney Rock Oyster	<i>Saccostrea glomerata</i>		5,159,666		\$65,730,051
	Pacific Oyster	<i>Crassostrea gigas</i>		393,238		\$5,698,928
	Native Oyster	<i>Ostrea angasi</i>		350		\$6,400
	Oyster spat***					\$6,142,380
<b>Subtotal</b>						<b>\$77,577,759</b>
Others*						\$1,556,390
<b>Total value (\$)</b>						<b>\$113,203,626</b>

\* Not available for confidential reasons ( $\leq$  permit holders authorised to cultivate species). Species include: Akoya Pearl (*Pinctada imbricata*), Australian Paratya (*Paratya australiensis*), Brown Trout (*Salmo trutta*), Blue Mussel (*Mytilus galloprovincialis*), Eel Tailed Catfish (*Tandanus*), Floodplain Mussel (*Velesunio ambiguus*), Golden Perch (*Macquaria ambigua*), Moreton Bay Bug (*Thenus australiensis*), Sea Lettuce (*Ulva lactuca*) and Tube Worm (*Diopatra aciculate* and *D. dentata*).

\*\* Refer to table 3; \*\*\* Refer to table 7

Table 2 - Fish, crustacean, and mollusc land based production for 2022-23

Grouping	Common name	Scientific name	Production kilograms	Average price per kilogram	Value (\$)
Crustaceans	Black Tiger Prawn	<i>Penaeus monodon</i>	212,160	\$21.79	\$4,622,213
	Yabby	<i>Cherax destructor</i>	2,076	\$40.06	\$83,160
	Yabby (bait)	<i>Cherax destructor</i>	2,733	\$79.22	\$216,498
<b>Subtotal</b>					<b>\$4,921,871</b>
Freshwater fish	Barramundi	<i>Lates calcarifer</i>	64,142	\$15.47	\$992,492
	Murray Cod	<i>Maccullochella peelii</i>	602,250	\$23.50	\$14,151,647
	Rainbow Trout	<i>Oncorhynchus mykiss</i>	163,460	\$14.46	\$2,364,255
	Silver Perch	<i>Bidyanus bidyanus</i>	77,762	\$20.14	\$1,566,352
<b>Subtotal</b>					<b>\$19,074,746</b>
Others*					\$644,790
<b>Total value (\$)</b>					<b>\$24,641,407</b>

\* Not available for confidential reasons ( $\leq 5$  permit holders authorised to cultivate species). Species include: Australian Paratya (*Paratya australiensis*), Brown Trout (*Salmo trutta*), Eel Tailed Catfish (*Tandanus tandanus*), Floodplain Mussel (*Velesunio ambiguus*), Golden Perch (*Macquaria ambigua*), Moreton Bay Bug (*Thenus australiensis*) and Tube Worm (*Diopatra aciculate* and *D. dentata*).

Figure 1 - Comparison of land-based aquaculture production by species and year

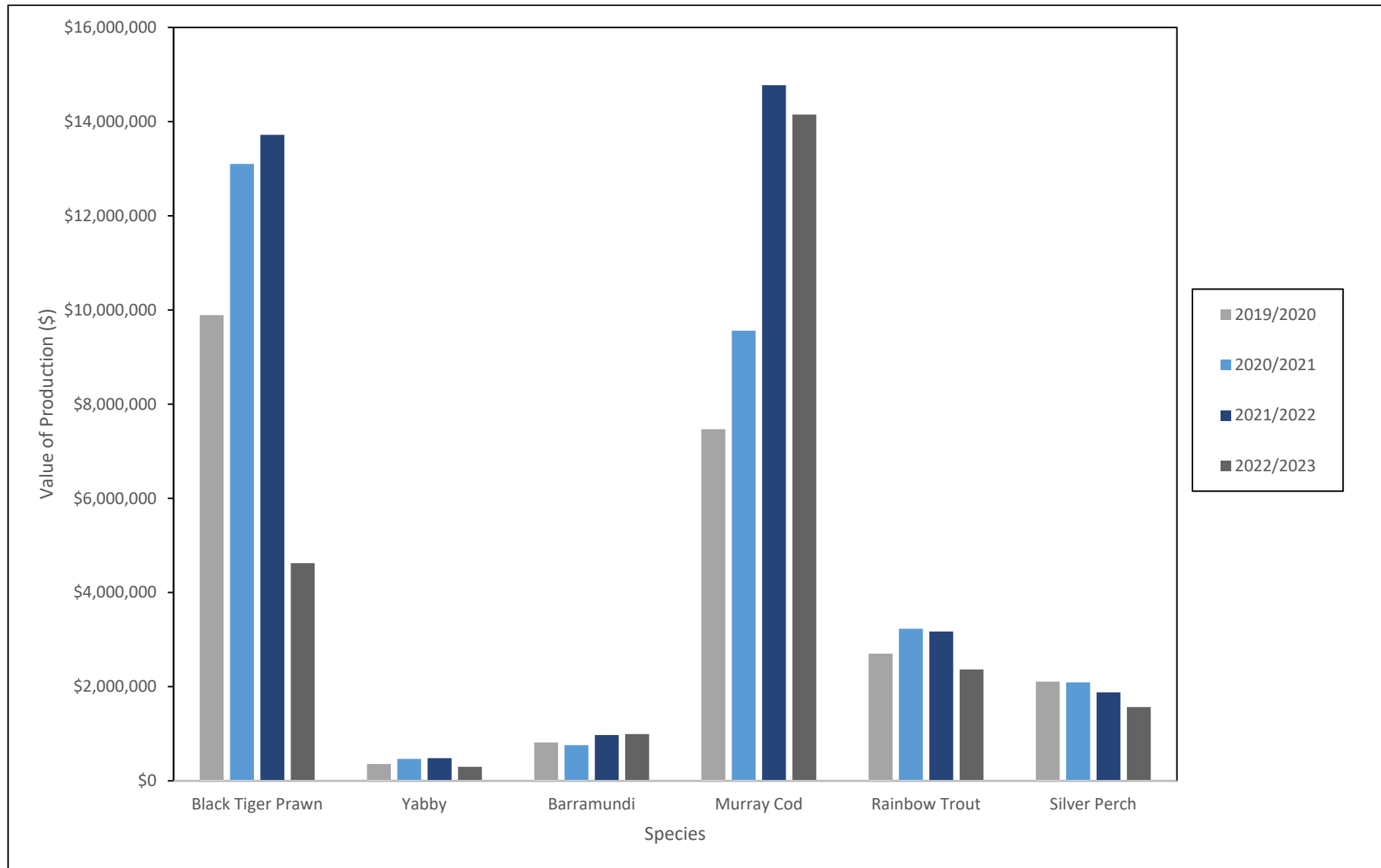




Table 3 - Hatchery production for 2022-23\*\*\*

Grouping	Common name	Scientific name	Production (individuals)	Average price per individual	Value (\$)
Aquarium species	Aquarium species		**	**	\$474,618
<b>Subtotal</b>					<b>\$474,618</b>
Freshwater fish	Australian Bass	<i>Macquaria novemaculeata</i>	476,827	\$0.94	\$447,414
	Golden Perch	<i>Macquaria ambigua</i>	2,306,862	\$0.57	\$1,322,508
	Murray Cod	<i>Maccullochella peelii</i>	3,533,887	\$0.92	\$3,251,057
	Rainbow Trout	<i>Oncorhynchus mykiss</i>	1,924,880	\$1.35	\$2,589,155
	Silver Perch	<i>Bidyanus bidyanus</i>	1,087,926	\$0.54	\$584,153
	Yabby	<i>Cherax destructor</i>	134,402	\$0.74	\$99,996
<b>Subtotal</b>					<b>\$8,294,283</b>
Others*					\$1,303,959
<b>Total value (\$)</b>					<b>\$10,072,860</b>

\* Not available for confidential reasons ( $\leq 5$  hatcheries authorised to cultivate species). Species include: Akoya Oyster (*Pinctada imbricata*), Brown Trout (*Salmo trutta*), Dusky Flathead (*Platycephalus fuscus*), Eel Tailed Catfish (*Tandanus tandanus*), Estuary Perch (*Macquaria colonorum*), Floodplain Mussel (*Vesunio ambiguous*), Native Oyster (*Ostrea Angasi*), Pacific Oyster (*Crassostrea gigas*), Sydney Rock Oyster (*Saccostrea glomerata*), Trout Cod (*Maccullochella macquariensis*), Yellowfin Bream (*Acanthopragus australis*).

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

\*\*\* The total value includes the equivalent value of fingerlings used for restocking purposes.

Table 4 - Sydney Rock Oyster and Pacific Oyster production by estuary and grade 2022-23

Estuary	Species	Large dozens	Large value (\$)	Medium dozens	Medium value (\$)	Small dozens	Small value (\$)	Total dozens	Total value (\$)
Macleay River	Sydney Rock Oyster	5,089	\$80,406	20,525	\$270,520	3,268	\$32,386	28,882	\$383,312
Hastings River	Sydney Rock Oyster	25,875	\$408,825	69,683	\$918,422	34,283	\$339,745	129,841	\$1,666,991
Camden Haven	Sydney Rock Oyster	7,261	\$114,724	40,969	\$539,971	103,570	\$1,026,379	151,800	\$1,681,074
Manning River	Sydney Rock Oyster	11,788	\$186,250	13,920	\$183,466	10,528	\$104,332	36,236	\$474,048
Wallis Lake	Sydney Rock Oyster	132,031	\$2,086,090	345,410	\$4,552,504	421,863	\$4,180,662	899,304	\$10,819,256
Port Stephens	Sydney Rock Oyster	128,182	\$2,025,276	172,746	\$2,276,792	197,473	\$1,956,957	498,401	\$6,259,025
Port Stephens	Pacific Oyster (diploid)	12,580	\$156,244	19,758	\$224,253	7,402	\$72,540	39,740	\$453,037
Port Stephens	Pacific Oyster (triploid)	1,087	\$19,827	9,418	\$135,996	4,078	\$49,058	14,583	\$204,881
Brisbane Water	Sydney Rock Oyster	14,044	\$221,895	29,649	\$390,774	88,213	\$874,191	131,906	\$1,486,860



Estuary	Species	Large dozens	Large value (\$)	Medium dozens	Medium value (\$)	Small dozens	Small value (\$)	Total dozens	Total value (\$)
Brisbane Water	Pacific Oyster (Triploid)	300	\$5,472	500	\$7,220	100	\$1,203	900	\$13,895
Hawkesbury River / Patonga Creek	Sydney Rock Oyster	18,327	\$289,567	20,092	\$264,813	10,633	\$105,373	49,052	\$659,752
Hawkesbury River / Patonga Creek	Pacific Oyster (triploid)	8,463	\$154,365	21,882	\$315,976	16,141	\$194,176	46,486	\$664,517
Crookhaven / Shoalhaven River	Sydney Rock Oyster	32,798	\$518,208	123,552	\$1,628,415	48,366	\$479,307	204,716	\$2,625,931
Crookhaven / Shoalhaven River	Pacific Oyster (triploid)	5,365	\$97,858	15,682	\$226,448	14,529	\$174,784	35,576	\$499,090
Clyde River	Sydney Rock Oyster	42,848	\$676,998	167,445	\$2,206,925	157,056	\$1,556,425	367,349	\$4,440,348
Clyde River	Pacific Oyster (triploid)	80,785	\$1,473,518	86,155	\$1,244,078	73,802	\$887,838	240,742	\$3,605,435
Tuross Lake	Sydney Rock Oyster	124,235	\$1,962,913	76,649	\$1,010,234	52,265	\$517,946	253,149	\$3,491,093

Estuary	Species	Large dozens	Large value (\$)	Medium dozens	Medium value (\$)	Small dozens	Small value (\$)	Total dozens	Total value (\$)
Wagonga Inlet	Sydney Rock Oyster	113,278	\$1,789,792	315,267	\$4,155,219	40,817	\$404,496	469,362	\$6,349,508
Wapengo Lake	Sydney Rock Oyster	41,384	\$653,867	211,444	\$2,786,832	53,935	\$534,496	306,763	\$3,975,195
Merimbula Lake	Sydney Rock Oyster	262,455	\$4,146,789	636,953	\$8,395,041	140,520	\$1,392,553	1,039,928	\$13,934,383
Pambula River	Sydney Rock Oyster	71,033	\$1,122,321	117,730	\$1,551,681	88,917	\$881,167	277,680	\$3,555,170
Wonboyn River	Sydney Rock Oyster	28,316	\$447,393	68,634	\$904,596	32,980	\$326,832	129,930	\$1,678,821
Others*	Sydney Rock Oyster	28,884	\$456,367	74,058	\$976,084	82,425	\$816,832	185,367	\$2,249,283
Others*	Pacific Oyster (triploid)	10,843	\$197,776	3,216	\$46,439	1,152	\$13,859	15,211	\$258,074
<b>Total</b>		<b>1,207,251</b>	<b>\$19,292,742</b>	<b>2,661,337</b>	<b>\$35,212,699</b>	<b>1,684,316</b>	<b>\$16,923,538</b>	<b>5,552,904</b>	<b>\$71,428,979</b>

\* Not available for confidential reasons ( $\leq 5$  current permit holders in the estuary). Estuaries include: Tweed River, Richmond River, Woolli Woolli River, Bellinger River, Nambucca River, Botany Bay, Conjola River and Nelson Lagoon.

Table 5 - Sydney Rock Oyster production by year, estuary, and grade

Estuary	Large dozens 2020-21	Large dozens 2021-22	Large dozens 2022-23	Medium dozens 2020-21	Medium dozens 2021-22	Medium dozens 2022-23	Small dozens 2020-21	Small dozens 2021-22	Small dozens 2022-23	Total dozens 2020-21	Total dozens 2021-22	Total dozens 2022-23
Nambucca River	12,115	10,117	*	32,121	32,074	*	63,697	62,956	*	107,933	105,147	*
Macleay River	958	315	5,089	1,374	676	20,525	1,385	343	3,268	3,717	1,334	28,882
Hastings River	48,611	26,166	25,875	100,277	55,653	69,683	58,524	33,021	34,283	207,412	114,840	129,841
Camden Haven	36,300	16,015	7,261	46,765	53,685	40,969	71,073	83,999	103,570	154,138	153,699	151,800
Manning River	12,483	13,670	11,788	21,974	36,807	13,920	18,960	12,193	10,528	53,417	62,670	36,236
Wallis Lake	172,497	217,170	132,031	425,806	390,587	345,410	498,282	505,705	421,863	1,096,585	1,113,462	899,304
Port Stephens	334,531	396,909	128,182	308,514	344,022	172,746	273,687	286,210	197,473	916,732	1,027,141	498,401
Brisbane Water	20,836	4,163	14,044	55,490	56,599	29,649	69,486	94,261	88,213	145,812	155,023	131,906
Hawkesbury River**	35,226	12,498	18,327	18,859	6,316	20,092	8,991	1,337	10,633	63,076	20,151	49,052
Crookhaven River***	31,350	16,569	32,798	84,492	42,466	123,552	65,186	107,340	48,366	181,028	166,375	204,716
Clyde River	100,381	46,594	42,848	216,026	127,939	167,445	120,578	162,482	157,056	436,985	337,015	367,349
Tuross Lake	30,635	22,067	124,235	36,694	37,365	76,649	24,476	27,092	52,265	91,805	86,524	253,149
Wagonga Inlet	81,879	73,124	113,278	174,502	255,357	315,267	28,081	55,622	40,817	284,462	384,103	469,362

Estuary	Large dozens 2020-21	Large dozens 2021-22	Large dozens 2022-23	Medium dozens 2020-21	Medium dozens 2021-22	Medium dozens 2022-23	Small dozens 2020-21	Small dozens 2021-22	Small dozens 2022-23	Total dozens 2020-21	Total dozens 2021-22	Total dozens 2022-23
Bermagui River	150	0	0	7,882	0	0	327	0	0	8,359	0	0
Wapengo Lake	54,303	36,029	41,384	65,130	124,420	211,444	44,307	62,596	53,935	163,740	223,045	306,763
Merimbula Lake	143,260	244,926	262,455	510,375	544,706	636,953	219,417	133,033	140,520	873,052	922,665	1,039,928
Pambula River	51,937	53,854	71,033	118,656	104,692	117,730	85,290	76,718	88,917	255,883	235,264	277,680
Wonboyn River	42,626	30,216	28,316	37,110	53,560	68,634	29,514	16,941	32,980	109,250	100,717	129,930
Others*	68,480	17,179	28,884	103,129	63,235	74,058	43,606	24,312	82,425	215,215	104,726	185,367
<b>Total</b>	<b>1,278,558</b>	<b>1,237,581</b>	<b>1,087,828</b>	<b>2,365,176</b>	<b>2,330,159</b>	<b>2,504,726</b>	<b>1,724,867</b>	<b>1,746,161</b>	<b>1,567,112</b>	<b>5,368,601</b>	<b>5,313,901</b>	<b>5,159,666</b>

\* Not available for confidential reasons ( $\leq 5$  current permit holders in the estuary). Estuaries include: Tweed River, Richmond River, Wooli Wooli River, Bellinger River, Nambucca River (2022-23), Botany Bay, Conjola River and Nelson Lagoon.

\*\* Hawkesbury River data for 2022-23 includes Patonga Creek data. For 2020-21 and 2021-22, Patonga Creek data was added to Others.

\*\*\* Crookhaven River data for 2022-23 includes Shoalhaven River data. For 2020-21 and 2021-22, Shoalhaven River data was added to Others.

Table 6 - Pacific Oyster (diploid and triploid) production by year, estuary, and grade

Estuary	Large dozens 2020/21	Large dozens 2021/22	Large dozens 2022/23	Medium dozens 2020/21	Medium dozens 2021/22	Medium dozens 2022/23	Small dozens 2020/21	Small dozens 2021/22	Small dozens 2022/23	Total dozens 2020/21	Total dozens 2021/22	Total dozens 2022/23
Port Stephens	1,915	618	13667	2,452	1,368	29,176	4,460	2,326	11,480	8,827	4,312	54,323
Brisbane Water	0	0	300	0	0	500	0	0	100	0	0	900
Hawkesbury River**	14,873	1,565	8,463	9,464	1,044	21,882	1,328	136	16141	25,665	2,745	46,486
Crookhaven River***	5,577	4,261	5,365	3,565	6,062	15,682	860	5,587	14,529	10,002	15,910	35,576
Clyde River	45,009	57,705	80,785	63,909	51,232	86,155	83,402	32,041	73,802	192,320	140,978	240,742
Others*	2,226	908	10843	5,402	4,731	3,216	1,829	3,317	1,152	9,457	8,956	15,211
<b>Total</b>	<b>69,600</b>	<b>65,057</b>	<b>119,423</b>	<b>84,792</b>	<b>64,437</b>	<b>156,611</b>	<b>91,879</b>	<b>43,407</b>	<b>117,204</b>	<b>246,271</b>	<b>172,901</b>	<b>393,238</b>

\* Not available for confidential reasons ( $\leq 5$  current permit holders in the estuary).

\*\* Hawkesbury River data for 2022-23 includes Patonga Creek data. For 2020-21 and 2021-22, Patonga Creek data was added to Others.

\*\*\* Crookhaven River data for 2022-23 includes Shoalhaven River data. For 2020-21 and 2021-22, Shoalhaven River data was added to Others.

Table 7 - Oyster spat production by spat source for 2022-23

Original source of spat	Large spat (\$)	Medium spat (\$)	Small spat (\$)	Total value (\$)
Hatchery stock	\$28,000	\$140,598	\$2,003,542	\$2,172,140
Wild caught stock	\$1,924,521	\$1,201,317	\$844,402	\$3,970,240
<b>Total value (\$)</b>	<b>\$1,952,521</b>	<b>\$1,341,915</b>	<b>\$2,847,944</b>	<b>\$6,142,380</b>

Includes figures for Sydney Rock Oyster and Pacific Oyster (diploid and triploid).

Figure 2 - Comparison of oyster aquaculture value of production by species and year

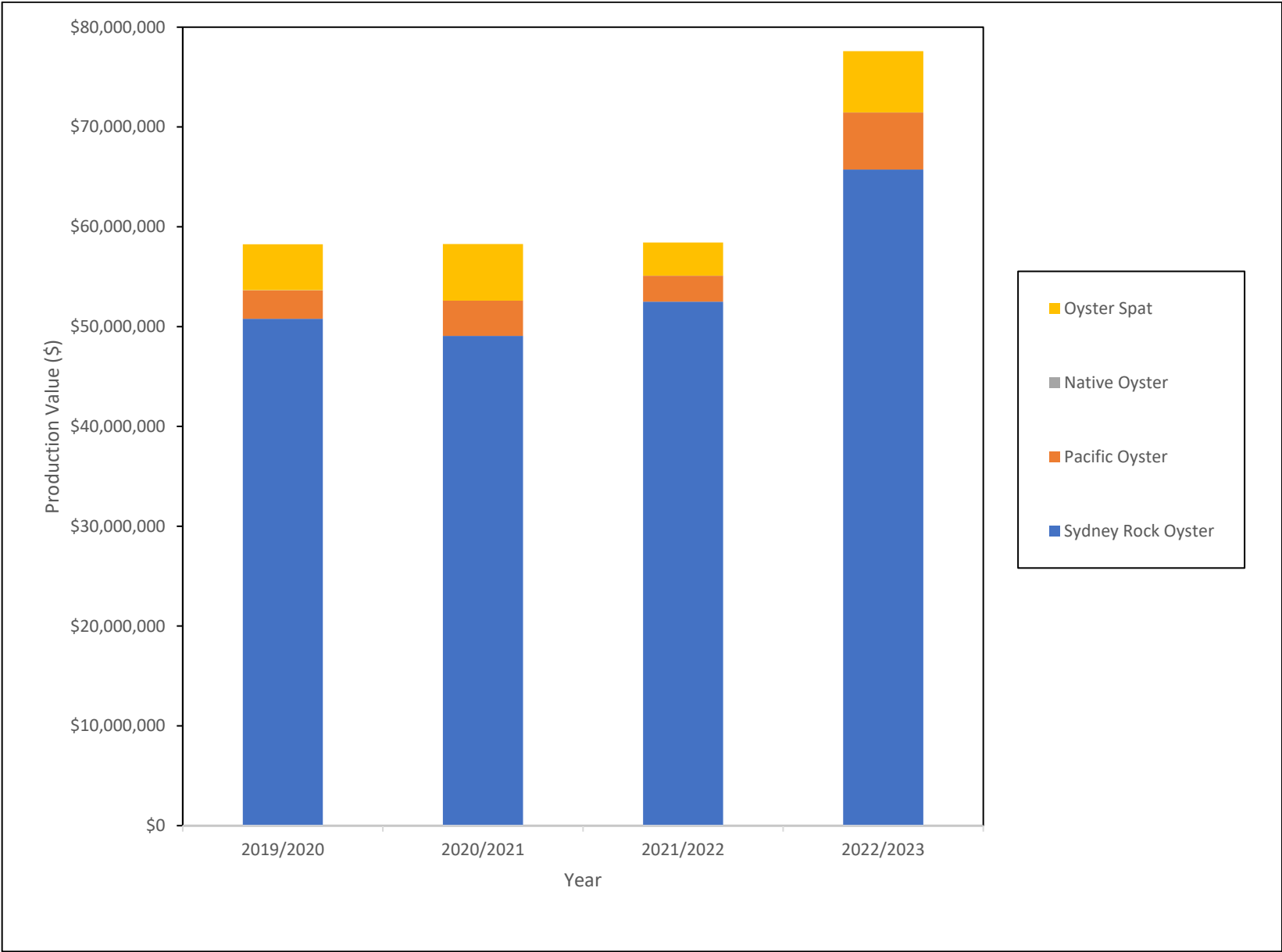




Table 8 - Total oyster production by permit holder for 2022-23

Production range	Nil production	1 - 5,000 dozen	5,001 - 35,000 dozen	>35,001 dozen	Total
Number of permit holders*	59	47	103	34	243
Percentage of permit holders	24%	19%	42%	14%	100%
Quantity produced (dozens)	0	95,282	1,670,722	3,787,250	5,553,254
Percentage of production	0%	2%	30%	68%	100%
Total value (\$)	\$0	\$1,296,159	\$21,560,052	\$48,579,169	\$71,435,379

\* Does not include the Class A permit holders who did not submit a production return for 2022-23. Does not include oyster spat production.

Table 9 - Average farm gate price per dozen for 2022-23 by species and grade

Grade	Sydney Rock Oyster	Pacific Oyster (diploid)	Pacific Oyster (triploid)	Native Oyster
Large	\$15.80	\$12.42	\$18.24	\$20.00
Medium	\$13.18	\$11.35	\$14.44	\$16.00
Small	\$9.91	\$9.80	\$12.03	N/A

Figure 3 - Percentage of class A permit holders by production group

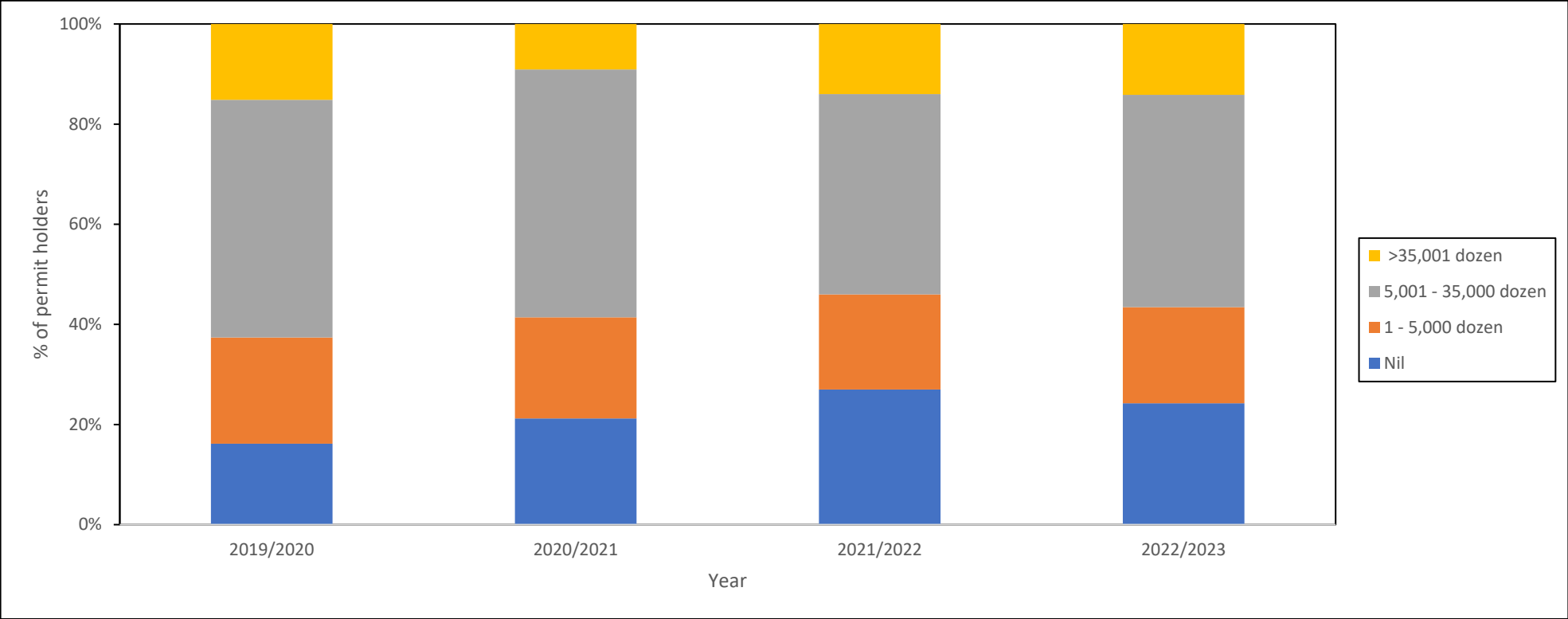


Table 10 - Average farm gate price for 2022-23 by estuary and species

Estuary*	Species	Large grade	Medium grade	Small grade
Macleay River	Sydney Rock Oyster	\$15.33	\$12.60	\$10.20
Hastings River	Sydney Rock Oyster	\$15.50	\$13.11	\$10.75
Camden Haven	Sydney Rock Oyster	\$14.50	\$12.30	\$9.20
Manning River	Sydney Rock Oyster	\$16.71	\$14.29	\$9.13
Wallis Lake	Sydney Rock Oyster	\$15.49	\$13.08	\$9.51
Port Stephens	Sydney Rock Oyster	\$13.22	\$11.60	\$9.28
Port Stephens	Pacific Oyster (diploid)	\$12.42	\$11.35	\$9.80
Port Stephens	Pacific Oyster (triploid)	\$11.50	\$11.70	\$10.13
Brisbane Water	Sydney Rock Oyster	\$17.11	\$13.33	\$10.04
Brisbane Water	Pacific Oyster (triploid)	\$23.00	\$19.00	\$16.00
Hawkesbury River/Patonga Creek	Sydney Rock Oyster	\$15.08	\$11.75	\$10.00
Hawkesbury River/Patonga Creek	Pacific Oyster (triploid)	\$17.69	\$14.50	\$12.33
Crookhaven/Shoalhaven River	Sydney Rock Oyster	\$15.14	\$12.27	\$8.95
Crookhaven/Shoalhaven River	Pacific Oyster (triploid)	\$19.12	\$15.20	\$12.59
Clyde River	Sydney Rock Oyster	\$17.26	\$14.14	\$10.29
Clyde River	Pacific Oyster (triploid)	\$19.83	\$14.96	\$11.87
Tuross Lake	Sydney Rock Oyster	\$15.25	\$13.20	\$9.93
Wagonga Inlet	Sydney Rock Oyster	\$15.48	\$13.35	\$9.87
Wapengo Lake	Sydney Rock Oyster	\$16.00	\$13.12	\$9.27
Merimbula Lake	Sydney Rock Oyster	\$16.23	\$13.69	\$10.57
Pambula River	Sydney Rock Oyster	\$15.51	\$13.09	\$10.04
Wonboyn River	Sydney Rock Oyster	\$14.67	\$12.50	\$8.50

\* Average farm gate price not available for all estuaries for confidential reasons ( $\leq 5$  current permit holders in the estuary). Estuaries include: Bellinger River, Botany Bay, Conjola River, Nambucca River, Nelson Lagoon, Richmond River, Tweed River, and Wooli Wooli River.

Table 11 - Size grades for Sydney Rock Oyster, Pacific Oyster and oyster spat

Species	Large	Medium	Small
Sydney Rock Oyster	> 70mm total length or > 50g whole weight	55 - 70mm total length or 30 - 50g whole weight	< 55mm total length or < 30g whole weight
Pacific Oyster (diploid and triploid)	> 85mm total length or > 70g whole weight	70 - 85mm total length or 35 - 70g whole weight	< 70mm total length or < 35g whole weight
Spat (all species)	> 20 mm	10 - 20 mm	< 10 mm

Table 12 - Conversion figures for oyster dozens to bags for Sydney Rock Oyster and Pacific Oyster

Species	Large	Medium	Small
Sydney Rock Oyster	100 dozen = 1 bag	110 dozen = 1 bag	130 dozen = 1 bag
Pacific Oyster (diploid)	76 dozen = 1 bag	120 dozen = 1 bag	150 dozen = 1 bag
Pacific Oyster (triploid)	40 dozen = 1 bag	60 dozen = 1 bag	80 dozen = 1 bag