



Aquaculture

IN NEW SOUTH WALES



FACTS & FIGURES 2022

ABOUT AQUACULTURE

NSW aquaculture produces a diverse range of sensational seafood including oysters, prawns, marine and freshwater fish, yabbies and mussels. The quality seafood produced by NSW aquaculture farms has won many fine food awards and accolades from food writers from across Australia.

Aquaculture will be an increasingly important sector to support the future food security needs of the state.

Aquaculture contributes over \$98 million to the NSW economy and provides over 1700 full and part time jobs in regional areas.

NSW Department of Primary Industries (DPI) is encouraging the ecologically sustainable development of aquaculture to ensure production of wholesome, highest quality seafood for the Australian public and for export.



aqua•cul•ture: the commercial farming of fish, molluscs, crustaceans and aquatic plants, in natural or controlled marine or freshwater environments.



NSW DPI AND AQUACULTURE

With increasing demand for high quality seafood, aquaculture is a growing industry. DPI is actively working with industry, the community and other agencies to ensure aquaculture develops in a sustainable manner – both environmentally, economically and socially.

Policies and guidelines have been developed by DPI to ensure all farming practices are environmentally sustainable, and benefit the community.

DPI also conducts aquaculture research, pioneering farming of a number of species in this state, including oysters, Silver Perch, Mulloway and Akoya Pearl Oysters. We're also involved in a number of additional aquaculture related projects, such as aquaculture diet formulation, hatchery techniques and breeding for restocking purposes.

DPI is leading the way in the development and transfer of technology to industry to support aquaculture, helping to enhance job creation and economic growth in rural NSW by encouraging responsible aquaculture investment.



TYPES OF AQUACULTURE IN NSW

Intensive farming: The species being grown is given specially prepared food.

Extensive farming: The species grown feeds naturally from the surrounding environment.

In NSW, aquaculture occurs in fresh, estuarine and marine waters. Aquaculture permits are issued for the different types of aquaculture, with some farms having more than one permit.

Permit Class	No. of permits	Main species grown
Extensive water based	269	Sydney Rock Oyster
Extensive land based	14	Yabby
Fishout (fishing business)	18	Trout, Silver Perch
Hatchery	47	Numerous species
Intensive land based	91	Silver Perch, Barramundi, Trout

2020-21 figures

Area of farms

Oyster leases 3,134 ha.

Oyster farms within the estuaries of the state utilise a range of growing infrastructure including racks, longlines, rafts, trays and in baskets.

Land based farms 516 ha.

Land based farms occur across the state and are generally divided into pond based or tank based recirculating aquaculture systems. Pond based aquaculture may be intensive or extensive farming.

OYSTER PRODUCTION

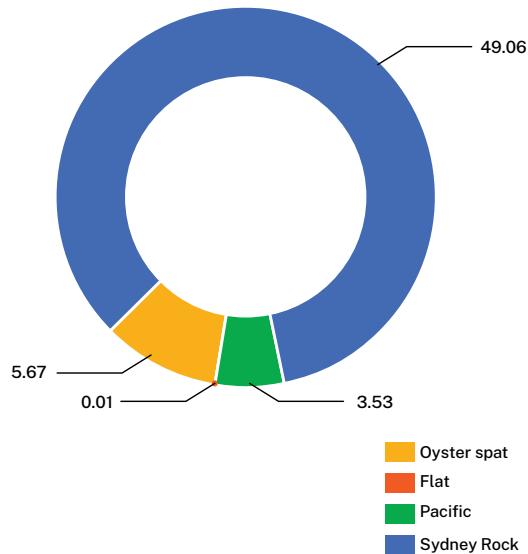
By economic value, oyster production is the main aquaculture activity in NSW. The oyster industry in 2020–2021 was worth \$59 million. The map below illustrates the estuaries used for oyster production in NSW.



VALUE OF THE OYSTER INDUSTRY

The iconic Sydney Rock Oyster is the main species grown in NSW. Relying on a healthy estuarine environment, oyster growers maintain vigilant surveillance of water quality under a world-class food safety program to ensure that quality, healthy products reach consumers.

\$ million



Oyster aquaculture

started in NSW in the 1870s



AQUACULTURE FARMS

The location of aquaculture farms is dictated primarily by the environmental constraints of the species being grown. Some species such as Silver Perch and Yabbies are grown widely across the state, while prawns are grown on the far north coast, mussels in Jervis and Twofold bays, Trout on the southern and northern slopes and Murray Cod in the Riverina. Hatcheries that produce fingerlings for aquaculture farms, stocking of farm dams and aquarium fish are also located throughout NSW.

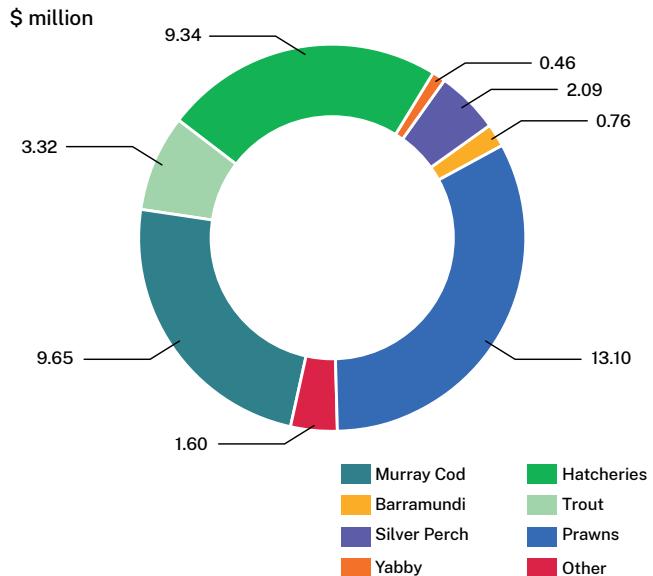
Freshwater fish and hatcheries in NSW



NON OYSTER AQUACULTURE PRODUCTION

Non oyster aquaculture production includes both marine, estuarine and land based farms. The species may be grown in cages, ponds, raceways, tanks or a combination of these. The facility may be small or occupy many hectares in size.

Black Tiger Prawn production was worth \$13.1 million in 2020-21, followed by Murray Cod at \$9.56 million, Hatchery species at \$9.34 million, Trout at \$3.23 million, Silver Perch at \$2.09 million and Barramundi at \$0.76 million.



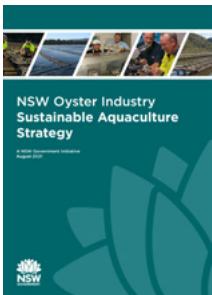
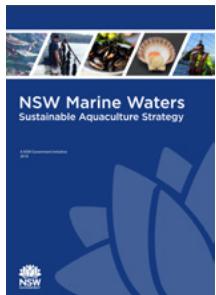
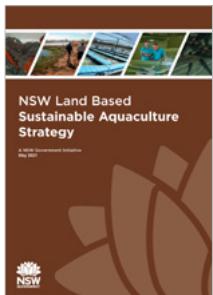
SUSTAINABLE AQUACULTURE

DPI encourages the sustainable development of aquaculture through the preparation of sustainable aquaculture strategies.

These documents outline industry best management practice. They provide a simplified government approvals process for the development of an aquaculture farm that demonstrates minimal risk to our environment.

The sustainable aquaculture strategies are integrated with the *State Environmental Planning Policy – Primary Production 2021* which is a key component of the *Environmental Planning and Assessment Act 1979* and acts to ensure ecologically sustainable aquaculture developments.

Aquaculture farms accredited under the NSW Hatchery Quality Assurance Scheme provide fish for restocking into NSW waterways to enhance recreational fisheries. The scheme ensures stocked fish meet the highest standard for genetics and health.



SOCIAL BENEFITS



- A recent study estimated both the NSW aquaculture production and the secondary sector have an output of \$226 m, added value of \$134 m, and generate \$69.3 m in household income with the sectors employing a total of 1758 full time jobs across NSW.¹
- As part of the study 94% of people surveyed agree that aquaculture is important in NSW, 89% expect to eat local seafood when they visit NSW and 76% felt eating local seafood is important for tourism. In addition, 63% would be interested in visiting an aquaculture operation while on holidays.
- A reliable supply of sustainably grown, high quality fresh seafood for consumers across NSW, and not just along the coast.
- Tourism opportunities with farm tours, local seafood sales or linked to restaurants.
- Enhanced recreational fishing stocks from restocking waterways.
- Health benefits of seafood – farmed fish are a valuable source of Omega-3 fatty acids essential for human health.
- Food security.

¹ Social and Economic Evaluation of NSW Coastal Aquaculture, Barclay et al 2016.

ENVIRONMENTAL BENEFITS

- Aquaculture can complement the supply of seafood from wild fisheries as consumer demand for seafood rises.
- Populations of threatened species can be maintained for later restocking into waterways.
- Employment of industry best practices to ensure sustainable development with minimal environmental impacts.
- Aquaculture is an efficient use of fresh water as it can be used twice: once to grow the species in, then used to grow other crops such as hydroponic vegetables, or pastures.
- Freshwater pond aquaculture in NSW is not permitted to discharge water from the farm, therefore protecting our environment.
- Estuary health surveillance through water quality monitoring undertaken by oyster farmers.
- Oysters in our estuaries act as a filtering system and are a good environmental indicator of estuary health.
- Development that may impact on oyster aquaculture has additional scrutiny through the approvals process to ensure it has no detrimental impact on estuary water quality. This protects the health of oysters and consequently the health and safety of oyster consumers, recreational fishers and other recreational users of the state's estuaries.
- Nearly all major oyster producing estuaries have an environmental management system in place. This outlines the industry's commitment to best practice and estuarine stewardship.

POINTS OF INTEREST

- Aboriginal communities conducted aquaculture using fish traps to capture then hold and grow fish for later use.
- In 2020, 52% of seafood consumed worldwide was produced by aquaculture.
- Aquaculture has been the fastest growing primary industry in Australia with a growth of over 12% per year.
- Oyster infrastructure provides valuable fish habitat in our estuaries and enhances recreational fisheries.
- Farmed fish are very efficient converters of feed to high quality protein. For example, 1 kg of fish protein is produced from 1-1.2 kg of feed, whereas beef require 7-8 kg of feed to produce 1 kg of protein.
- Approximately 87% of seafood purchased in NSW is imported.
- Algae farming is being developed in NSW to meet the demands for algae products from the stock feed, pharmaceutical, nutraceutical and food industries.





Photograph courtesy Destination NSW

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For more information on aquaculture in
NSW including an industry directory:
www.dpi.nsw.gov.au/fishing/aquaculture
T: 02 4916 3900
E: aquaculture.management@dpi.nsw.gov.au

