Aquaculture

IN NEW SOUTH WALES

NSW GOVERNMENT

FACTS & FIGURES 2024

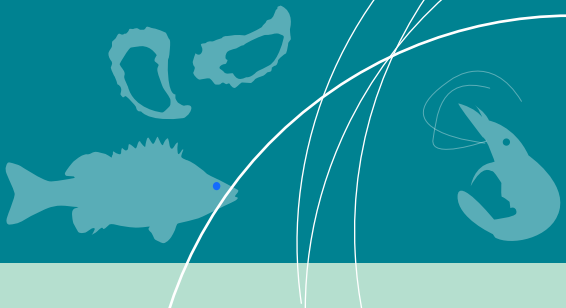
ABOUT AQUACULTURE

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

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

Aquaculture directly contributes over $113 million to the NSW economy and provides over 2,321 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.



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 – environmentally, economically and socially.

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

DPI also conducts aquaculture research, pioneering farming of a number of species in this state, including oysters, Silver Perch and Mulloway. 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	240	Sydney Rock Oyster
Extensive land based	13	Yabby
Fishout (fishing business)	19	Trout, Silver Perch
Hatchery	40	Numerous species
Intensive land based	78	Silver Perch, Barramundi, Trout

2024 figures

Area of farms

Oyster leases 3189 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 528 ha.

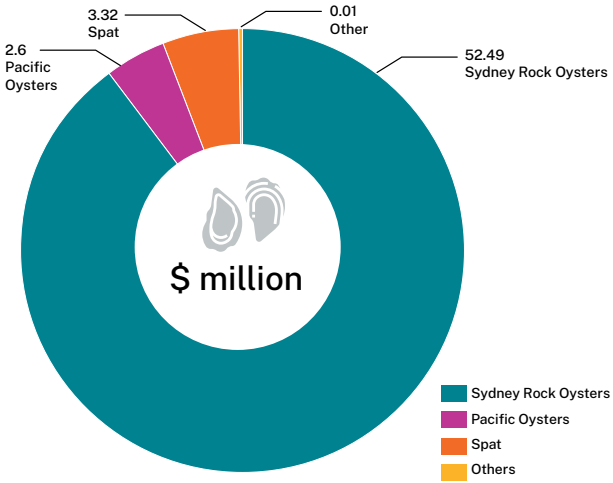
Land based farms occur across the state and are generally divided into pond based or tank based recirculating aquaculture systems. Pond based aquaculture may be intensive or extensive farming.

OYSTER PRODUCTION

By economic value, oyster production is the main aquaculture activity in NSW. The oyster industry in 2022–2023 was worth $77.6 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.



AQUACULTURE FARMS

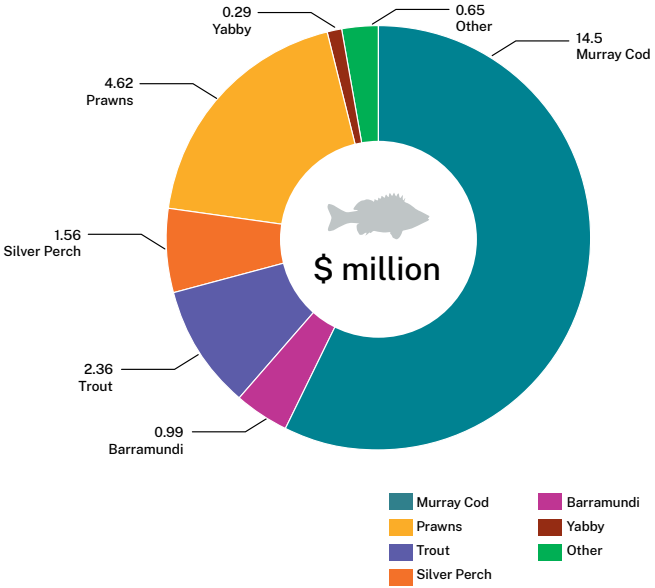
The location of aquaculture farms is dictated primarily by the environmental constraints of the species being grown. Some species such as Silver Perch and Yabbies are grown widely across the state, while mussels are grown in Jervis and Twofold bays, Trout on the southern and northern slopes, and Murray 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 marine, estuarine and land based farms. The species may be grown in cages, ponds, raceways, dams, tanks or a combination of these. The facility may be small or occupy many hectares in size.

Murray Cod production was the highest land-based sector in 2022-23, worth $14.2 million, followed by Hatchery at $10.1 million, Black Tiger Prawns at $4.62 million, Trout at $2.36 million, Silver Perch at $1.56 million and Barramundi at $0.99 million.



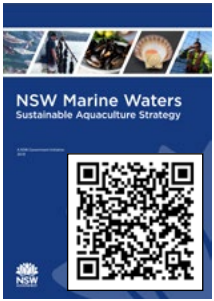
SUSTAINABLE AQUACULTURE

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

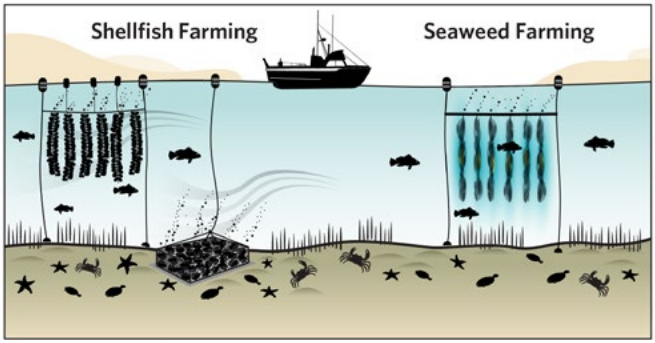
The NSW Aquaculture Industry Directory has been produced by DPI Fisheries to showcase the diversity of farmed seafood and ornamental fish available from NSW. This directory is not inclusive of all producers, only identifying those that have nominated to be listed.

- A recent study estimated both the aquaculture production and the secondary sector have an output of $425.1m in direct economic contribution, and a total gross state product of $219.7m. Aquaculture generated 145.1m in household income, contributed to 2,321 full time jobs across NSW, and $4.9m in direct tourism incomes.[1]
- Another study[2] found that 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] Economic Contribution of Aquaculture to NSW, BDO EconSearch 2023

[2] Social and Econimic Evaluation of NSW Coastal Aquaculture, Barclay et al., 2016

RESTORATIVE AQUACULTURE CONCEPTS



A **single hectare** of restorative farms...

REMOVES

more than half a ton of nitrogen (which would cost ~US$50K to remove through wastewater treatment)

INCREASES

the abundance of wild fish by up to 5 tons per year

FILTERS

up to 25M gallons of water per day (about 40 Olympic-sized swimming pools)

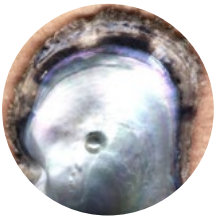
CAPTURES

carbon dioxide in coastal waterways and prevents ocean acidifications

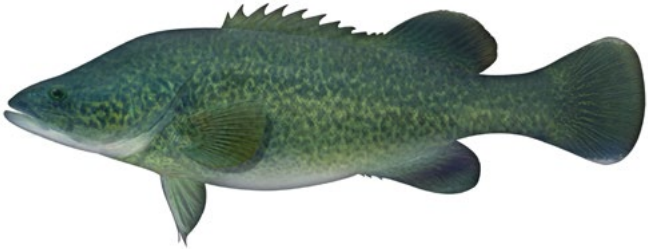
ENVIRONMENTAL BENEFITS

Shellfish in particular provide the service of removing excess nitrogen and phosphorous from the water. At a rate of approximately 2.8 kg of nitrogen and phosphorus removed per tonne of shellfish harvested, the total value of nutrient removalservices by oyster and mussel aquaculture in NSW in 2021/22 was estimated to be $5.6 million.

- 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.



POINTS OF INTEREST

- Aboriginal communities conducted aquaculture using fish traps to capture then hold and grow fish for later use.
- In 2022, global aquaculture production reached a record 130.9 million tonnes, valued at $469.47 billion
- Aquaculture has been the fastest growing primary industry in Australia with a growth of over 12% per year.
- 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.
- The aquaculture industry is currently more valuable than the commercial fishing sector in NSW.

For more information on aquaculture in NSW including an industry directory:

www.dpi.nsw.gov.au/fishing/aquaculture

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